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## Table of Contents

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ORIGINAL ARTICLES—	PAGE.	ABSTRACTS FROM CURRENT MEDICAL LITERATURE—	PAGE.
An Address: "The Spirit of the Association", by ALFRED J. GIBSON, M.B., Ch.M., F.R.A.C.S. . . . .	565	Ophthalmology . . . . .	588
"Certain Aspects of Acidosis", by F. S. HANSMAN, M.B., Ch.M., M.R.C.P. . . . .	570	Oto-Rhino-Laryngology . . . . .	589
"Midwifery in General Practice", by LEONARD MAY, D.S.O., M.C., M.B., Ch.M., F.R.C.S. . . . .	575		
		<b>BRITISH MEDICAL ASSOCIATION NEWS—</b>	
<b>REPORTS OF CASES—</b>		Annual Meeting . . . . .	590
"Respiratory Failure Treated by Endotracheal Insufflation", by GILBERT BROWN, M.B., Ch.B. . . . .	581	Nominations and Elections . . . . .	596
<b>REVIEWS—</b>		<b>MEMORIAL TO THE LATE WILLIAM JOHN HANCOCK . . . . .</b>	<b>596</b>
Ross and His Work . . . . .	583		
Minor Surgery . . . . .	583	<b>CORRESPONDENCE—</b>	
Physiology . . . . .	583	"Avertin" . . . . .	596
		The Rapidly Changing Point of View . . . . .	597
<b>ANALYTICAL DEPARTMENT—</b>			
"Vita-Weat" . . . . .	583	<b>OBITUARY—</b>	
"Tenax" . . . . .	584	John Edgar Wolfhagen . . . . .	597
<b>LEADING ARTICLES—</b>		<b>BOOKS RECEIVED . . . . .</b>	<b>598</b>
Research and Publication . . . . .	585		
		<b>DIARY FOR THE MONTH . . . . .</b>	<b>598</b>
<b>CURRENT COMMENT—</b>			
The Use of Serum in Acute Appendicitis . . . . .	586	<b>MEDICAL APPOINTMENTS . . . . .</b>	<b>598</b>
Artificial Pneumothorax and Acute Lobar Pneumonia . . . . .	587	<b>MEDICAL APPOINTMENTS VACANT, ETC. . . . .</b>	<b>598</b>
		<b>MEDICAL APPOINTMENTS: IMPORTANT NOTICE . . . . .</b>	<b>598</b>
		<b>EDITORIAL NOTICES . . . . .</b>	<b>598</b>

### An Address.<sup>1</sup>

#### THE SPIRIT OF THE ASSOCIATION.

By ALFRED J. GIBSON, M.B., Ch.M., F.R.A.C.S.,  
President, New South Wales Branch of the  
British Medical Association.

My first duty is to express my great appreciation of the honour paid me in being elected President for 1932. Since boyhood it has been my ambition to be President of the New South Wales Branch of the British Medical Association, and tonight that ambition has been realized. The position of President has been held by some of the most illustrious medical men in New South Wales, and I feel that to

have my name linked with theirs is to have been paid one of the highest professional honours possible. But it would be idle to deny that my ambition did not include the desire to hold office in such troublous times as these.

The Late Robert Henry Todd.

As you know, the late Dr. R. H. Todd was elected President for this year. This is not the time to give a full account of the many valuable services which he rendered to the Association. This has already been done, but as successor to the position which his sudden and untimely death rendered vacant, I felt I must add a small tribute of respect and affection to his memory. It was thought that it would be a very fitting ending to a long and valuable service if Dr. Todd's final duties were those of President of the Branch he had served so well. He

<sup>1</sup> Delivered at Sydney, March 31, 1932.

had long deserved this honour, but his other duties so monopolized his time that he never allowed anything savouring of personal distinction to encroach on them. Now the opportunity of paying him this honour seemed to have arrived. He was always proud of the distinction of being a Vice-President of the British Medical Association, and it was known that his election as President of this Branch was a source of great satisfaction to him, as he had desired to hold this office. It was not anticipated that his life would end so suddenly. Had it been possible, it would have been a fitting climax to the career of a man who, by his untiring and unselfish efforts, so freely and willingly made, played such a large part in placing the Association in its present proud position. We shall miss his sound advice, his kindly personality and his habit, almost if not quite a passion, of meticulous phraseology, but this room dedicated in his honour will perpetuate his memory and remind us always of the great and valuable work he did.

#### The Association.

I have decided to address you tonight on "The Spirit of the Association". The troublous times of the past few years resemble the convulsive efforts associated with the birth of a new era. The whole world is being affected by the struggle, and many long established habits and customs are being assailed. Who would dare to forecast the future? But in these times of depression it is well to take stock of the position and to endeavour to strengthen those institutions which in the past have proved of value to the community. One may therefore ask: "Is this Branch of the British Medical Association of any value to the individual practitioner or to the community, and should any effort be made to increase its influence?" Before answering these questions one has to consider the objects for which the Association was established.

#### The Objects of the Association.

May I crave your indulgence while I enumerate the most important as set out in the Memoranda and Articles of the Association. They are:

1. The promotion of medical and allied sciences and the maintenance of the honour and the interests of the medical profession by the aid of meetings, publications of papers and transactions *et cetera*.
2. To form a bond of union among the members of the profession and a medium through which their opinions can be easily ascertained and expressed.
3. To collect and circulate statistics and other information relating to the medical or allied sciences or the medical profession.
4. To promote the general and social interests of the profession.
5. To promote fair and honourable practice and to suppress malpractice to settle disputed points of practice and to decide all questions of professional usage and courtesy.
6. To consider originate and promote improvements in the law relating to the profession or to the medical or allied sciences to consider alterations in the law and oppose or support same and for the purpose aforesaid to petition Parliament and take such other steps and proceedings as may be deemed expedient.

7. To form a maintain a medical library.
8. To purchase or lease any land or buildings and to erect any buildings required for the purposes of the Association.
9. To correspond with bodies or individuals on any matter touching medical interests and by its moral influence and the exercise of a judicious supervision to prevent abuses in the profession.
10. To consider any subject connected with the appointments of medical men to public institutions, positions and services.
11. To consider any question of medical polity.
12. To consider the federation of the medical profession in the various colonies of Australasia.
13. To purchase or acquire a newspaper or periodical to be devoted to the interests of the medical profession.
14. To borrow and invest money of the Association *et cetera*.

Briefly, the Association aims to establish the highest possible standard of medical knowledge and practice; to imbue its members with high ideals of personal and professional honour; to foster the spirit of loyalty to and cooperation with its individual members; to protect its members from exploitation by outside hostile or unsympathetic interests; to protect its members and the community from the dangerous and evil practices of ignorant and unscrupulous practitioners.

The spirit that animated the founders of this Association was neither mean nor petty; it was great and noble, and envisaged a magnificent and glorious ideal. Everyone surely will agree that these objects have a very great and practical importance, not only to every medical practitioner, but also to every member of the community. It is obvious that if every member is animated by this spirit, great progress towards the ideal can be made; but while individual effort is of the utmost importance, to attain the full ideal collective effort is essential.

In the course of time other bodies have arisen, such as the Royal Australasian College of Surgeons and the Association of Physicians of Australasia, which are interested in the particular problems of their special work. There have been rumours of the formation of other bodies. But it is quite impossible for any of these bodies to speak or act for the profession as a whole. If the medical profession wishes to exert any influence on outside bodies, the whole profession must be united. Union is strength, and if large and influential sections stand aside and take no interest in the affairs of the Association as a whole, their own position may be assailed with possibly unfortunate results.

The British Medical Association in the past has exerted a great influence in the whole community, but much still remains to be done. It has aimed at a high standard of professional work and medical ethics, and by the measure of success hitherto attained has conferred inestimable benefits upon all classes of society. For the spirit permeating the majority of the profession is that of service to the community. Rich and poor alike have received of our best, and so long as that spirit predominates, the Association will prosper.

But in rendering service to the community it must not be forgotten that the labourer is worthy of his

hire. This aspect is one which the community frequently overlooks. Though this, of course, is true, we must consider our own attitude. The world today shows clearly that disaster inevitably results from the worship of mammon, and the pursuit of purely selfish interests, national or individual. A policy which endeavours to get as much as possible out of an institution and give as little as possible in return is liable to ruin any institution in time. That policy must not be allowed to get a footing in the Association if we wish to preserve its value. If every member can be persuaded to support and to forward the objects of the Association, much greater progress can be made, abuses can be suppressed, individual prosperity increased, working conditions improved, and better service rendered to the community.

#### *Fostering Tradition.*

One very important way to increase the bond of union among members is to keep alive the traditions of an institution. We have had many illustrious presidents and councillors, but there is a danger that they may be forgotten unless we can have some permanent record of them. Many of the pioneers are no longer alive, and unless we soon make a beginning, it will be very difficult to obtain records of their lives, of the difficulties they had to face, and of the opposition they had to overcome. We want to know them as they were with all their human frailties, good or bad, and the conditions under which they practised. This year an effort is being made to establish such a record, and the last meeting of the year has been chosen as the most suitable, because it is always more social than scientific, and the recent graduates are invited to attend. If this meeting could be made more a reunion meeting, where old friendships could be renewed, old times recalled, and newcomers made welcome, surely it would be a source of inspiration to new members and a powerful influence for uniting the profession.

#### *Young Members of the Profession.*

It is believed by many that the Association is not very interested in the younger members and that their interests are made subservient to those of their seniors, and that they are not wanted at the Branch meetings. On the contrary, the Association wants the younger members to take a great interest in its affairs, and particularly to come to the Branch and clinical meetings and to realize that they are welcome. There they meet and get to know one another and their seniors, and there are forged the first links of that bond of union of members which we so much desire to foster and increase. Moreover, the meetings have a great educational value. I was greatly impressed by a remark made a few years ago by Dr. Worrall, who was President thirty-nine years ago and has always taken a keen interest in the meetings. He remarked that he had never come to a British Medical Association meeting without learning something of value. If a man of his seniority and great experience can learn

something of value at every meeting, a young man should surely find the meetings more valuable. I can echo Dr. Worrall's remarks, and hope that the younger members will realize that they are welcome as colleagues and attend in large numbers.

#### *Insurance Work.*

Insurance work at the present time plays an important part in professional duties. In the past it has caused some dissension in the ranks of the profession. Although practitioners have had many grounds for grievance, some members have not always acted in the best spirit of the Association. These grievances are being steadily eliminated by the good work of our Medical Secretary, who acts as mediator between the two parties in any dispute. It should be remembered that as a result of the *Workers' Compensation Act* many practitioners receive payment for work which formerly did not come to them, but was done *gratis* in the public hospitals. The views of the Commission are that charges should be based on the amount which the injured worker could be expected to pay, having regard to his occupation and social position, if he were a private patient. There are still some unsatisfactory matters existing, but it is hoped that these will be speedily eliminated and still greater harmony established between the parties concerned.

#### *The Clinics and Public Hospitals.*

The clinic and hospital questions require much careful thought by the medical profession. They have to be considered from three standpoints: those of the public, the hospitals and the medical profession. Formerly, public hospitals were regarded as charitable institutions where the sick poor, unable to afford attention from private practitioners, could receive adequate medical and nursing treatment. Medical men have always freely and willingly given their services *gratis* to such patients. But with the increase of more exact methods of diagnosis, X ray and laboratory investigations were more often necessary, the cost of medical treatment increased, a greater number of individuals found themselves unable to afford ordinary medical fees and so entered public hospitals. The numbers lately have increased to such an extent, and the cost of maintaining nursing and lay staffs *et cetera* has become so enormous, that many public hospitals find themselves in great financial difficulties. With a view to assisting in this matter of finance the Hospitals Commission has introduced a contribution scheme, contributors to which will be entitled to certain benefits as regards hospital accommodation, but not to medical treatment. With the same object in view, the Hospital Commission proposes to develop the public hospitals along the community hospital lines whereby the indigent will receive treatment as hitherto, the intermediate patient will contribute a certain amount to the hospital and to the medical attendant, and the private patient will pay full medical and hospital fees.

Although public hospitals are no longer regarded as charitable institutions, because it is held to be



degrading to class hospital patients as persons receiving charity, yet the fact remains that although patients contribute to the hospital upkeep, they are accepting charity from the medical men who do the essential work, for the members of the honorary medical staff receive no payment whatever for the work they do. The public should realize this.

When the *Workers' Compensation Act* came into force, it was manifestly unjust that persons insured under this Act should be treated in public hospitals where medical men are debarred from receiving payment. Under the community hospital scheme it is understood that all injured workers become paying patients. A most important judgement was given by the Full Court, February 3, 1932, in the case of *Hutton versus Dorman Long and Company, Limited* (insurer, Government Insurance Office). The judgement means that the employer is liable for the cost of medical treatment, as distinct from hospital treatment, of an injured worker entitled to compensation under the *Workers' Compensation Act*, 1926-1929, in a private hospital; and also in a public hospital, providing that the medical attendant complies with the regulations to the 1929 *Public Hospital Act*.

Many persons doubtless are able to afford to pay for private medical attention and yet are by no means averse to accepting free medical, that is, charitable, treatment from medical men. This is an abuse of the medical profession. There are several reasons why this abuse came into existence and still persists, and some of these are due to the apathy of medical men themselves.

Take only two examples, the ante-natal clinics and the baby health centres. Obstetricians were aware that maternal mortality rates were remaining higher than was desirable. To improve these figures ante-natal supervision was essential. This was preached to the profession and public for many years, but many of the profession do not yet realize to the full the necessity for it. The demand was made by the public, many doctors were slow in responding, and the consequence was that the public flocked in ever-increasing numbers to the clinics, and the public hospital ante-natal clinic habit was strongly formed.

I do not wish to belittle the wonderful work that the ante-natal clinics have done, but I do say emphatically that it would be very much better for the public for this work to be done by medical men, trained in ante-natal methods, who act as the family doctor and who have intimate knowledge of the lives and idiosyncrasies of their patients. The public must be educated to realize that good midwifery work is of the utmost importance to the community, that such work must be adequately paid for, and that when this state is reached, maternal mortality rates will fall, healthier and better babies will be born, future citizens whose mental capacities have not been lessened by the difficulty of birth.

The baby health centres, or clinics as they are often called, were established to supervise babies' health in the early months and to teach mothers in

the care and management of babies. They are doing very excellent work, but clinic nurses occasionally advise treatment in opposition to that which medical practitioners have found eminently successful in particular instances. Whenever any instance of this sort occurs, the matter should at once be reported to the Director of Maternal and Baby Welfare, because such a nurse needs officially reminding that she is a nurse and not a doctor. Clinic nurses and doctors give advice *gratis* to persons well able to afford private medical attention. It is absolutely wrong that persons well able to pay for medical advice should be receiving charity from the medical profession.

The clinics can be of great use in teaching mothers methods *et cetera* that they should know, but it would save many abuses if only people were seen who were known to be indigent, or who brought requests from medical men or hospitals. The evil arose partly from the apathy of medical men in not recognizing the public demand for more modern methods in these matters, and partly from the desire of the public to receive something for nothing.

The numbers of public hospital patients have been increased unnecessarily by thoughtlessness of the doctors in many instances. Many patients are sent to hospital or go there of their own accord because it is thought private fees are excessive and beyond their means. Often mistakes of this sort are made. It would be far better when there is any need for any special examination, such as X ray or pathological examination, for the doctor to ring up the specialist concerned and to ask him if he would be willing to do the test for a certain fee.

There are recognized fees for X ray and laboratory work, consultations, operations *et cetera*, and these fees are not excessive. The majority of the profession are willing to consider the social and financial position of patients, and are willing to make reductions when requested to do so by practitioners whom they know, or when the position is explained to them. Furthermore, there are many of the younger men in all the specialties who have time available to undertake such work when so requested. Much of the work being done in public hospitals and by the Board of Health today could and should be done by private practitioners.

The public should be made to realize that good health is one of the greatest treasures they possess, and all fair-minded people should be willing to pay what they can afford for its restoration when it is impaired.

Provided medical men act in the true spirit of the Association and use all the means in their power to see that only genuine cases are referred for reduced fees, no harm could possibly result and much benefit would be conferred on the profession, and public hospital costs would be diminished.

Hospital authorities are to blame in some instances because the admitting officers are unaware of what private treatment would cost. They and the public require instruction in these matters. Furthermore, all hospitals do not make the neces-



sary full inquiry into the financial position of patients. They are influenced by the fact that other hospitals transgress in a similar way, and they are not anxious to lose patients. The numbers treated are supposed to be an indication of the greatness of the hospital, but it is not always remembered that the medical reputation of the hospital is the most important factor in attracting the large numbers. Hospitals should have a uniform form to be filled in, and this should include a warning that false statements render the patient liable to prosecution, and also a statement that the services of the honorary medical officers are being given free. This is in existence in some places and has been of value in preventing imposition by unscrupulous persons. Public hospitals should do all in their power to see that their activities do not act detrimentally to the medical profession, without whose help they could not exist. The Council is fully aware of the fact that abuses do exist and has placed before the responsible authorities their views on these matters. It is anticipated that steps will be taken to eliminate these abuses.

I have mentioned only two clinics, but when it is remembered that there are as well venereal clinics, tuberculosis clinics, cancer clinics, psychiatry clinics *et cetera*, it can be seen that the matter is a serious one, and if it ever comes to pass that contraceptive clinics and legalized abortion clinics, as in Russia, are established, we will, in very truth, become pure "clinical" practitioners in more senses than one.

#### *The Council and Delegates of the Local Associations.*

It is often stated that the Council pays attention to the interests of Macquarie Street specialists and disregards or is unsympathetic towards those of the general practitioners. The Council is usually largely composed of men who have been, or still are, in general practice, and before any decision is made on matters of importance every effort is made to obtain the opinion of the majority of the profession and to act accordingly. In 1931 there were only about three councillors who had no experience of general practice. The Medical Politics Committee deals with problems concerning the profession in general and with all lodge and insurance work, and always has several men in active general and lodge practice as members or coopted members, and one may ask, are such men likely to suggest or agree to any proposals detrimental to their own interests?

At the quarterly meetings of the Council delegates from all the Local Associations can attend and are given the opportunity to place the views of their members before the Council on all important questions before a decision is made by the Council. Furthermore, every year a meeting is held composed of delegates from every Local Association and members of the Council. The subjects on the business paper have been considered by the Associations and the delegates are thoroughly acquainted with the views of their members. A full discussion takes place and a final decision is reached by a vote of the delegates alone. No member of the Council

votes because it is desired to obtain the views of the Local Associations alone as advisory to the Council.

It chanced last year that one proposal put forward by the Council was very hotly criticized. Most of the delegates had received instructions to vote against it, but during the discussion the reasons for the Council's proposal were found so cogent that an almost complete change of opinion took place. The delegates then were in a dilemma how to vote, because the majority felt convinced that the Council's suggestions had much to commend them.

It has been suggested that, to further the general practitioners' interests, each Local Association should submit the names of certain of their members, deemed suitable for election to the Council, to each other. From these a certain number, regarded as the most suitable, should be endorsed and should receive a block vote from all the Associations. The members thus elected would receive instructions on the definite policy they were to support and to vote for. This would introduce into medicine all the evils of a narrow party political system. I trust that this spirit will never be allowed to get a footing in the Association. Medical men are supposed to be educated persons who have been trained how to observe, how to think, and how to reason. They have to shoulder responsibility and make vital decisions promptly as an everyday part of their work. How any medical man could for one moment regard himself as a mere rubber stamp passes my comprehension. I am sure that no member of past Councils would countenance such a suggestion for an instant.

But I do think the matter of how delegates should vote should be considered. My views are that every delegate to the annual or any meeting should present the views of his Association as strongly as possible, as has been done in the past. But it is quite possible that at the meeting fresh information, formerly unavailable to them in time for consideration by their Association, may have come to hand. Fresh arguments may be brought forward, and delegates may find that their own opinions have changed. I maintain that they should be instructed to vote as their mature judgement dictates. No man should be elected as delegate who does not possess the full confidence of his Association. The same applies to members of the Council. The best interests of the profession can be served and true progress made only when every aspect of a question is debated with perfect freedom and a decision made after mature consideration of all the points discussed. Very great harm can result from hasty and ill-considered proposals.

Finally, I would remind you that we are members of no "mean" Association. The New South Wales Branch is the third Branch of the British Medical Association in size. It is the largest Branch in any of the Dominions, and only two Branches in England have a larger membership. Largely through its influence the medical profession is held in high esteem by the majority of the community. In

cooperation with the friendly societies a Common Form of Agreement was drawn up. This is one of the most reasonable agreements in existence, considering the character of the work done and the social status of the persons treated. Though not perfect, it is certainly the best in Australia, and most harmonious relations have existed between the Friendly Societies and the Association since it was agreed to.

The Association is often misunderstood by the public, but this is due to ignorance of its aims and powers, and because powers are attributed to it which it does not possess and does not desire to possess. Measures have been suggested from time to time whereby the public may be enabled to understand and appreciate the views of the Association better, and it may be desirable to reconsider some of these again. The honour of the Association is in the keeping of each member. So long as each individual remembers that and acts in accordance with the true spirit of the Association, so long will the New South Wales Branch of the British Medical Association flourish and be of incalculable value to the whole community.

Let us be worthy of the eulogy of Robert Louis Stevenson who, in the preface to "Underwoods", wrote these words:

There are men and classes of men that stand above the common herd: the soldier, the sailor, and the shepherd not infrequently; the artist rarely; rarer still the clergyman; the physician almost as a rule. He is the flower (such as it is) of our civilization, and when that stage of man is done with, and only to be marveled at in history, he will be thought to have shared as little as any in the defects of the period and most notably exhibited the virtues of the race. Generosity he has, such as is possible to those who practise an art, never to those who drive a trade; discretion, tested by a hundred secrets; tact, tried in a thousand embarrassments; and what are more important, Heracleian cheerfulness and courage. So that he brings air and cheer into the sick room, and often enough, though not so often as he wishes, brings healing.

#### CERTAIN ASPECTS OF ACIDOSIS.<sup>1</sup>

By F. S. HANSMAN, M.B., Ch.M., M.R.C.P.,  
Honorary Director, Department of Biochemistry,  
Royal Prince Alfred Hospital, Sydney.

BEFORE considering what is meant by the term acidosis it is necessary to define a few chemical terms and to discuss a few chemico-physical laws which are relevant to the subject. This I shall endeavour to do in a simple and schematic way. The theory is difficult, but it is possible to translate it so that it can be followed without undue labour.

Our subject has to deal with the body alkalis or bases, Na<sup>+</sup>, K<sup>+</sup>, Mg<sup>2+</sup>, Ca<sup>2+</sup> and NH<sub>3</sub>, and the body acids, HCO<sub>3</sub><sup>-</sup>, CO<sub>3</sub><sup>2-</sup>, H<sub>2</sub>PO<sub>4</sub><sup>-</sup>, HPO<sub>4</sub><sup>2-</sup>, SO<sub>4</sub><sup>2-</sup>, Cl<sup>-</sup>, organic acids, for example, amino-acids, hæmoglobin *et cetera*.

During life, or at any rate during normal life, the total valency of the basic ions is always exactly equivalent to the acidic ions. The valency is expressed as mille molecular equivalents per 100 cubic centimetres, that is, as the number of molecules of base or acid per 100 cubic centimetres of plasma, and there are in 100 cubic centimetres of plasma the same number of basic ions as there are acidic ions. This number is approximately 150. As can be seen from Figure I, the basic ions consist of small amounts of Mg<sup>2+</sup>, Ca<sup>2+</sup> and K<sup>+</sup>, and a large amount of Na<sup>+</sup>. The acidic ions consist of a small amount of CO<sub>3</sub><sup>2-</sup>, HPO<sub>4</sub><sup>2-</sup>, organic acids and hæmoglobin, a moderate amount of HCO<sub>3</sub><sup>-</sup> and a large amount of Cl<sup>-</sup>. The phosphate, carbonate, organic acids and hæmoglobin are called buffers, and we must now digress to study what is meant by buffers and to discuss very shortly what is meant by hydrogen ion concentration.

Let us consider what happens in any solution. The simplest solution is water, H<sub>2</sub>O. The solution known as water is not altogether expressed by the symbols H<sub>2</sub>O. It is expressed better as H<sub>2</sub>O ⇌ H<sup>+</sup>OH<sup>-</sup>, because in a solution there is always some dissociation of individual ions. In water a very slight amount is dissociated and is present as free H<sup>+</sup> and free OH<sup>-</sup> in equivalent amounts. The concentration of the H<sup>+</sup>, written [H<sup>+</sup>], and the concentration of OH<sup>-</sup>, written [OH<sup>-</sup>], is very small. According to the law of mass action, which we will not consider, the product of the concentration of H<sup>+</sup> ions and OH<sup>-</sup> ions divided by the concentration of H<sub>2</sub>O in water is equal to a constant, K. This may be written.

$$\frac{[H^+][OH^-]}{[H_2O]} = K$$

$$\text{or } [H^+][OH^-] = K[H_2O]$$

Now there is so little of the total mass of [H<sub>2</sub>O] dissociated that the [H<sub>2</sub>O] for all practical purposes is unaltered, so that K[H<sub>2</sub>O] has a constant value which has been determined experimentally to be 0.00000000000001, that is, 10<sup>-14</sup>, so that:

$$[H^+][OH^-] = 10^{-14}$$

But water is neutral, that is:

$$[H^+] = [OH^-]$$

$$\therefore [H^+] = [OH^-] = 10^{-7}$$

That is, a neutral solution contains a concentration of H ions, [H<sup>+</sup>] = 10<sup>-7</sup>N. This holds for every neutral solution. Furthermore, in all solutions the product of [H<sup>+</sup>] and [OH<sup>-</sup>] = 10<sup>-14</sup>. Now for simplicity the index of the power without the minus sign is taken, and is called the pH, so that in a neutral solution the pH or H ion concentration is 7. When a solution is acid the concentration of H ion increases and the index 7 decreases, because you must remember that we omit the minus sign of the power in expressing the pH. Therefore, if the concentration of H ions increases ten times, the solution is ten times as acid and the pH is 6.

<sup>1</sup>Read at the second annual reunion of the Residents' and Ex-Residents' Association, Royal Prince Alfred Hospital, Sydney, October, 1931.

Now we must be careful not to confuse the normality of a solution and the pH (H ion concentration) of a solution. If we take a N/10 solution of two acids, say, hydrochloric acid and acetic acid, we know that it will require the same amount of a given alkali to neutralize them both. But if we taste the two acids or try their effect on our abraded skin, we will appreciate that the hydrochloric acid is more acid than the acetic; it is more reactive, or it is a stronger acid, or technically, it is more highly dissociated into its component ions, or its H ion concentration is greater, or its pH is lower. By experiment we know that 82% of the hydrochloric acid is dissociated, but only 1.36% of the acetic acid is dissociated, that is, the pH of the hydrochloric acid is 1.2, and the pH of the acetic acid is 2.87.

Now acids that dissociate to only a small extent are known as weak acids, and in the body we have many such, for example, hæmoglobin, amino-acids, the phosphates and  $\text{CO}_3^{--}$ ; but of all these bicarbonate and phosphate are by far the weakest.

Owing to this lack of dissociation, considerable amounts of acid or alkali can be added to solutions containing such acids without appreciably changing the concentration of H ions, that is, the pH. Such acids are known as buffers, and on them depends to a large extent the ability of the body to deal with appreciable amounts of acid or alkali without change in reaction. This buffering is the first line of defence when the body has to deal with added acid or alkali. Without this buffering action a slight amount of exercise would produce sufficient lactic acid to kill us.

There is just one further chemical point to consider before we can pass on to more practical points. When a strong alkali like sodium or potassium is combined with a weak acid like  $\text{HCO}_3$ , the resultant salt is alkaline, that is, the H ion concentration is less than neutral, or the pH is greater than 7. We all know that  $\text{NaHCO}_3$  is a weak alkali, and it is universally used therapeutically as such. It is owing to the fact that in the body an appreciable amount of the Na exists as  $\text{NaHCO}_3$  that the blood has normally a slightly alkaline reaction, the pH being 7.4.

Now let us turn to a consideration of the part bicarbonate plays in the body. The  $\text{CO}_2$  of the body exists partly as  $\text{H}_2\text{CO}_3$  and partly as  $\text{B.HCO}_3$ .

Normally the ratio  $\frac{\text{H}_2\text{CO}_3}{\text{B.HCO}_3} = \frac{1}{20}$  approximately,

and the  $\text{HCO}_3$  is approximately 30 mille molecular equivalents per hundred cubic centimetres of plasma. Owing to the ease with which the amount of  $\text{CO}_2$  of the blood is changed by increasing or decreasing respiratory exchange, the  $\text{HCO}_3$  of the body is the principal means of making more permanent adjustments for changes in H ion concentration which the buffers had taken immediate care of, so that the amount of  $\text{HCO}_3$  is constantly rising and falling. In hyperpnœa, which is Nature's way

of rapidly removing excess acid, we have the only clinical manifestation of acidosis.

We now pass on to consider the significance of changes in the amount of base and acid radicals in various metabolic conditions, but before doing so we must remember that the conception of actual salts existing in the plasma must be given up, and we must consider that we have basic ions paired with acidic ions. If we had strong basic or acidic ions unpaired, we would have a condition incompatible with life. The term acidosis has come to mean any change in the total valency of the acidic and basic radicals, and also any change in the ratio of the individual bases or the acids. The various possibilities will be considered in some detail, first, in a more physiological sense, secondly, in a more pathological sense.

#### "Physiological" Variations in Acid-Base Equilibrium.

For the diagrammatic manner of expression I am indebted to J. L. Gamble.<sup>(1)(2)</sup> The argument is a compilation from various sources; some of the diagrams are those of Gamble.

Diagram 1 shows the normal picture of the relationship existing between the acidic and basic radicals. The actual valency is very probably an individual characteristic, and for the purpose of

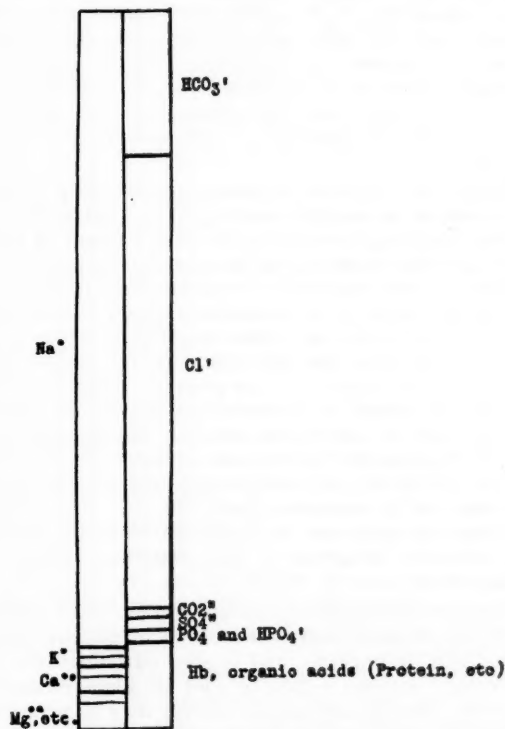


FIGURE 1.

Normal distribution of basic and acidic ions in plasma. Total valency 150 mille molecular equivalents per 100 cubic centimetres (approximate). pH 7.3-7.5; probably very close to 7.4.  $\text{HCO}_3$  30 mille molecular equivalents per centum (approximate).  $\text{Cl}^-$  90 mille molecular equivalents per centum (approximate). Note large amount of  $\text{Na}^+$ .



simplicity we will consider that the plasma of the person under consideration has a normal valency of 150 mille molecular equivalents per 100 cubic centimetres, made up by the relative amounts of individual ions shown. Let us note particularly the  $\text{HCO}_3' = 30$ ,  $\text{CO}_2'' = 1.5$ ,  $\text{Cl}' = 95$ , and pH 7.3 to 7.5.

Diagram 2 represents the simplest change in acid-base equilibrium. It results from  $\text{CO}_2$  deficit, as may be brought about by overbreathing or transference to a high altitude. Carbon dioxide is washed out and there is a tendency for the valency of base to be greater than the total acid. This is an uncompensated alkalosis. The  $\text{HCO}_3$  is less than 30 and the pH greater than 7.5. Apnoea follows and tetany may supervene. Compensation is brought about by excretion of base in the urine, the urine becoming alkaline, and by the retention of acidic ions. When compensation is reached, there is a lowering of the total basic and acidic valencies, but equilibrium is present and the pH is normal.

Diagram 3 represents an uncompensated alkalosis brought about by excessive administration of alkali. The valency of both base and acid rises above 150. Carbon dioxide is retained and the  $\text{HCO}_3$  rises above 30, but as a greater amount of strong alkali is covered by this weak acid than in the normal state, the alkalinity of the plasma is increased (see above), and the pH is greater than 7.5. The symptoms are apnoea and tetany. Compensation is brought about by excretion of  $\text{Na}'$  as  $\text{NaHCO}_3$  and retention of  $\text{CO}_2$  and other acidic ions. The picture is then that of Diagram 6 and passing finally to Diagram 1.

Diagram 4 represents uncompensated acid excess or acidosis, as brought about by acid administration or by breathing air rich in  $\text{CO}_2$ . The valency of both acid and base tends to be greater than normal, and the acidic ions tend to be in excess of the basic ions.  $\text{HCO}_3$  is washed out, so that its valency falls below 30, and this leaves more base coupled to strong acid radicals, so that the pH tends to fall below 7.3. Symptoms of hyperpnoea are present. Compensation is brought about by excretion of acid in the urine in the form of ammonium salts, by the mobilization of alkali from the tissues and of calcium from the bones. When the pH again reaches the normal figure we have total valencies above 150, and the picture is then the same as in compensated alkali excess, as seen in Diagram 6 and passing finally to Diagram 1.

Diagram 5 represents the picture of alkali (base) deficit or chronic acid retention. This picture could be caused by purging, and is seen pathologically in diarrhoea without vomiting and in some forms of ketosis. The lowered alkali valency may be primary, as in diarrhoea, or secondary, due to loss of alkali in the urine in ketosis. The  $\text{HCO}_3$  tends to fall below 30 and the pH below 7.3. Compensation is brought about by excretion of the organic acids in the urine or of  $\text{Cl}'$  ions, and by retention of base. When the pH is again normal, the total valencies

DIAGRAMS SHOWING "PHYSIOLOGICAL" VARIATIONS IN ACID-BASE EQUILIBRIUM.

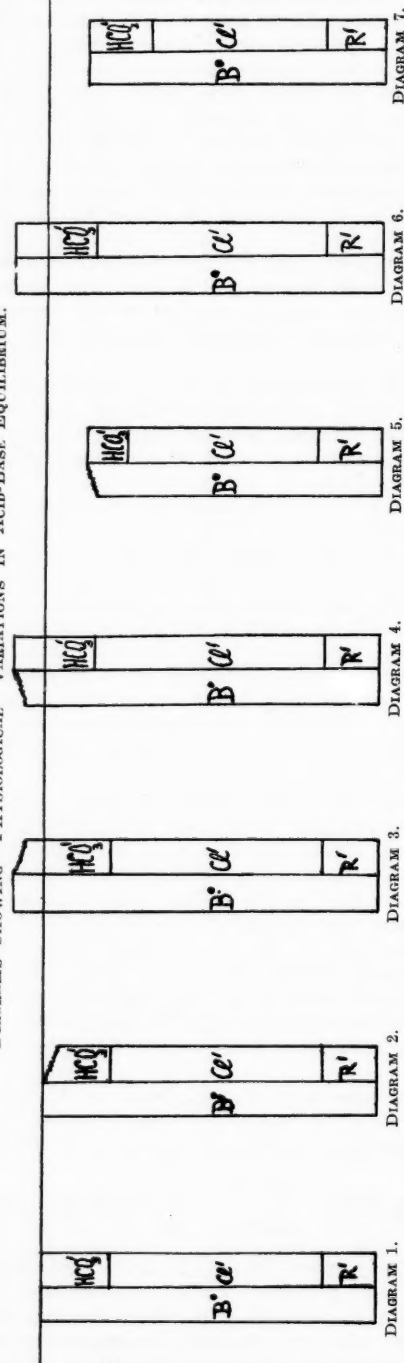


DIAGRAM 1.—Normal. pH 7.4; range, 7.3 to 7.5.  $\text{HCO}_3' = 30$  mille molecular equivalents per centum.  $\text{Cl}' = 95$  approx.

DIAGRAM 2.— $\text{CO}_2$  deficit. pH > 7.5.  $\text{HCO}_3' < 30$ . Examples, overbreathing, high altitudes.

DIAGRAM 3.—Alkali (base) excess. pH > 7.5.  $\text{HCO}_3' > 30$ . Base > normal. Example, administration of alkali.

DIAGRAM 4.—Acid excess. pH < 7.3.  $\text{HCO}_3' =$  or < normal.  $\text{Cl}' >$  normal. Example, administration of acid for a short period.

DIAGRAM 5.—Alkali (base) deficit. pH < 7.3.  $\text{HCO}_3' < 30$ . Relative retention of strong acid. Example, purging.

DIAGRAM 6.—Compensated alkali or acid excess. pH 7.5 or less.  $\text{HCO}_3' = 30$  approx. End result of 3 or 4 when cause of change has ceased to function. Note that total valency is greater than normal.

DIAGRAM 7.—Compensated alkali or acid deficit. pH < 7.5 or > 7.3.  $\text{HCO}_3' = 30$  approx. End result of 5 or 7 when cause of change has ceased to function. Note that total valency is less than normal.

of base and acid are both lowered. The picture is then that of Diagram 7.

Diagram 6 represents a compensated alkali or acid excess or  $\text{CO}_2$  excess, as seen in emphysema. The total valency is greater than the normal for the

## DIAGRAMS GIVING PATHOLOGICAL VARIATIONS IN ACID-BASE EQUILIBRIUM.

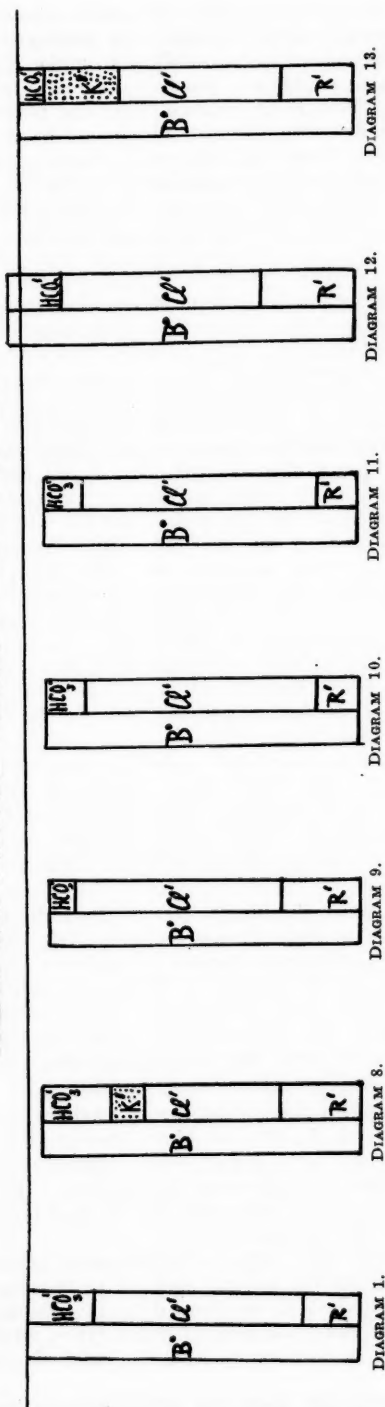


Diagram 1.—Normal. pH 7.4; range, 7.3 to 7.5. HCO<sub>3</sub> 30 millie molecular equivalents per centum. Cl' 95 approx.

Diagram 2.—Alkalosis of vomiting. pH > 7.5. HCO<sub>3</sub> increased. Cl' greatly decreased. R' increased, due to dehydration. Total base reduced. Total valency low. Note presence of ketones, which are protective to some extent, and if excessive may induce acidosis. Alkalosis due to relative increase in HCO<sub>3</sub> (weak) and decrease in Cl' (strong).

Diagram 3.—Acidosis of diarrhoea. pH < 7.3. HCO<sub>3</sub> decreased. Cl' increased (relative). R' increased, due to dehydration. Total base reduced. Total valency low. Acidosis, due to relative increase in Cl' (strong) and absolute decrease in HCO<sub>3</sub> (weak).

Diagram 4.—Acidosis of therapeutic acid administration (calculated from Linder's). pH 7.28. HCO<sub>3</sub> reduced. Cl' absolute increase. R' decreased. Slight loss of base. Total valency low. Acidosis due to relative increase in Cl'.

Diagram 11.—Acidosis of "nephrosis". pH < 7.3. HCO<sub>3</sub> reduced. Cl' absolute increase. R' greatly reduced—low plasma. Total base somewhat reduced. Total valency low. Acidosis due to relative increase in Cl'.

Diagram 12.—Acidosis of nephritis. Picture varies with stage of disease. In case illustrated pH < 7.3. HCO<sub>3</sub> somewhat reduced. Cl' not much change. R' absolute increase (retention of PO<sub>4</sub> and unknown organic acids). Total base increased. Total valency increased. Acidosis due to increase of acids stronger than HCO<sub>3</sub>.

Diagram 13.—Acidosis of ketosis. Picture very variable. In case illustrated pH < 7.3. HCO<sub>3</sub> very low. Cl' decreased. R' increased (dehydration). K' present in large amounts. Base not changed. Acidosis due to ketone acids, which are stronger than HCO<sub>3</sub>. For other possibilities see text.

individual; both acid and base are in equilibrium, and the pH is between 7.3 and 7.5.

Diagram 7 represents a compensated alkali or acid deficit; the total valency is less than normal, but the acid and base are in

equilibrium, and the pH is between 7.3 and 7.5.

#### Pathological Variations in Acid-Base Equilibrium.

Bearing these more or less "physiological" variations in mind, we can now consider the pathological states that give similar pictures.

#### Alkalosis or Acidosis Due to Vomiting.

Alkalosis or acidosis due to vomiting is depicted in Diagram 8. In vomiting there is a loss of large quantities of fluid which is rich in Cl' and containing some basic ions, so that there is an uncompensated acid deficit. If the vomiting is of any great duration, and especially in children, there is a production of ketone bodies. If this is excessive and dehydration affects renal excretion, this ketosis may even cause an acidosis, because a larger amount of base is covered by stronger acid radicals than HCO<sub>3</sub> (ketogenic acids are stronger than HCO<sub>3</sub>), and the pH falls below 7.3.

*Results on the Plasma.* There is early a large increase in bicarbonate to make good the Cl' loss which is in excess of the Na' loss (HCl in vomitus). The Cl' ion may be reduced to 50% of its initial value. Ketone bodies accumulate and to some extent are protective in that they protect the body against further increase in HCO<sub>3</sub>, with resulting increased alkalosis. There is an increase of organic acids known as R' acids, due to concentration of plasma. There is some loss in basic ions. The alkalosis is present because a large amount of base is covered by HCO<sub>3</sub>, resulting in an alkaline salt. (Compare Diagram 5.)

#### Acidosis of Diarrhoea Without Vomiting.

Acidosis of diarrhoea without vomiting is depicted in Diagram 9. In diarrhoea there is a loss of fluid that contains an excess of alkaline radicals, so that Cl' is retained out of proportion to Na', and an acidosis results. It is dangerous to continue to give NaCl if the diarrhoea does not cease, as the Na will be excreted by the bowel with water, Cl' will be retained and the acidosis will be accentuated. Hartmann considers that he has seen patients killed by NaCl injections. Hartmann<sup>(7) (8)</sup> gave water by mouth plus glucose plus NaHCO<sub>3</sub> injections with great benefit. If the diarrhoea ceases suddenly, an alkalosis with tetany may result.

In diarrhoea with vomiting the loss of Na is greater than the loss of Cl'; it is therefore better to give  $\text{NaHCO}_3$ , especially as the  $\text{HCO}_3$  is often low.

**Changes in Plasma.** There is a greater loss of base than of Cl', though some Cl' is lost. The relative increase in Cl' must be followed by a reduction in  $\text{HCO}_3$ , leading to increased ventilation. Concentration of plasma leads to an increase in R' acids. The end result is acidosis with depleted reserve of base. (Compare Diagram 5.)

#### *Acidosis Due to Therapeutic Administration of Acids.*

Acidosis due to therapeutic administration of acids is depicted in Diagram 10. Acids in doses up to 500 cubic centimetres N/10 HCl are often given therapeutically, the object being to change either the alimentary flora or to aid digestion. As changes of the plasma must ensue, should not alkalis or a basic diet be given at the same time?

**Changes in Plasma.** The following effects were noted by Linder<sup>(3)</sup> from giving 1,000 cubic centimetres N/10 HCl to a normal man. There was an acidosis with a fall in the pH from 7.46 to 7.28. There was a fall in total base, a fall in  $\text{HCO}_3$  and an increase in Cl'. Not all the Cl'-given could be accounted for in the plasma and the urine. Linder suggests that there was incomplete absorption, excretion of Cl' into the bowel, or retention of Cl' by the tissues.

#### *Acidosis of Nephrosis.*

Acidosis of nephrosis or nephrotic type of nephritis (chronic hæmorrhagic nephritis with œdema) is depicted in Diagram 11.

**Changes in Plasma.** There is first a decrease in base. This may be very marked, and Linder<sup>(3)</sup> says that one of the most marked features of nephrosis is the inability to mobilize base. This can be brought to light by giving acid. A decrease in  $\text{HCO}_3$  is an early change. An increase in Cl' is a marked feature, and there is a decrease in R' (organic acids) due to a fall in plasma proteins.

Acids in small quantities, such as the acid salt ammonium chloride provides, may be of benefit in helping to mobilize base. The acidosis which is usually present, is thought by many authorities to be beneficial, but if it is pronounced, alkalis are indicated and often give good results.

#### *Acidosis of Chronic Hæmorrhagic Nephritis.*

Acidosis of chronic hæmorrhagic nephritis (chronic nephritis *et cetera*) is depicted in Diagram 12. There is a very variable picture, according to the stage and degree of activity of the disease. Acidosis is not a marked feature until the terminal stage, then it is often profound.

**Changes in Plasma.** The changes in plasma in the particular case shown were a slight increase in total base and some decrease in  $\text{HCO}_3$  because of an increase in R', due to retention of phosphates and organic acids of unknown composition, that is, there is an acidosis with increased base. The terminal acidosis may have a very low pH, down to

6.98. This is due to alkali deficit. (Compare Diagram 5.) The kidneys cannot excrete acid products of metabolism because of their inability to make  $\text{NH}_3$ . Owing to this, nephritics have to mobilize and excrete base. This is first taken from the plasma and tissue fluids without much detriment to well-being, and lastly, from the body cells, which causes a profound upset to the metabolism. At this stage injections of bicarbonate will do temporary good, but will not cause a permanent improvement.

#### *Acidosis Due to Ketosis.*

Acidosis due to ketosis is depicted in Diagram 13. This is seen in diabetes, cyclic vomiting, infectious diseases and starvation. The picture varies from case to case, depending on many factors, but in general there is a decrease in  $\text{HCO}_3$  and a great increase in ketones, which means an increase of strong acid, and therefore an acidosis. There may be no change for a time in pH. In many cases there may be no loss in base and there is no need to give alkali. Remove the ketones and  $\text{CO}_2$  will be retained, thus ending the acidosis. But the possibilities are numerous and complex. For example, Campbell and McLeod<sup>(4)</sup> and Bock have shown that insulin acts better in the presence of  $\text{HCO}_3$ ; therefore use of  $\text{NaHCO}_3$  may be imperative, especially as the ketones can be made to disappear and yet the  $\text{HCO}_3$  remain low. Peters and coworkers<sup>(5)</sup> show that ketonæmia can exist without lowered  $\text{HCO}_3$ , there being a loss of Cl'. This is especially liable to occur if ketosis develops slowly. They urge giving  $\text{NaHCO}_3$  and NaCl with plenty of fluid intravenously. If the kidneys can be made to work, Na' will be excreted. Base has been found to be lowered in many cases, so that  $\text{NaHCO}_3$  is indicated when this is so.

Coburn<sup>(6)</sup> stresses the importance of the kidneys. If any evidence of renal damage exists,  $\text{NH}_3$  cannot be formed and ketones cannot be excreted. He urges the necessity of getting the kidneys to work, and he found that blood transfusion was excellent in effecting this. He showed that if the kidneys cannot be made to work, the patient will die, even though the ketones are removed by insulin.

There is a general agreement that a patient cannot be treated from the  $\text{CO}_2$  combining power alone. It is necessary to have a full blood examination and therapeutics according to indications. The dehydration is a most important factor, and must always be actively combated.

There are many other forms of acid-base relationship in disease, but the general method of treating the problem as indicated by these diagrams should be useful in the understanding of other types, such as the changes in pregnancy and the acidosis of anaesthesia.

A word may be said about the actual calculation of the data in any individual case of suspected acidosis. The complete detailed estimation of every single component is quite impractical, except for research workers. However, means are readily available for estimating the essential constituents.



"Total base" is estimated by conversion into and estimation as sulphate.<sup>(9) (10)</sup> The  $\text{HCO}_3'$  is calculated from the  $\text{CO}_2$  combining power by converting volumes *per centum* into grammes *per centum*. The  $\text{Cl}'$  is estimated by Van Slyke's<sup>(11)</sup> method, and the  $\text{R}'$  acid is taken as the difference between total base and the sum of  $\text{HCO}_3$  and  $\text{Cl}'$ . If the pH is within normal limits, this is quite adequate, but if the pH is abnormal, there is, of course, a slight error. If the phosphates are high, as in nephritis, another small error is introduced. However, in spite of possible errors, the data are always of the greatest value in the understanding and treatment of a patient.

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#### MIDWIFERY IN GENERAL PRACTICE.<sup>1</sup>

By LEONARD MAY, D.S.O., M.C., M.B., Ch.M. (Sydney),  
F.R.C.S. (Edinburgh),  
Kurri Kurri, New South Wales.

THE objects of this paper are, first, to describe a practical method of preparing and sterilizing the coverings of obstetrician and patient in midwifery which may be specially suitable to practitioners in the country, where the conveniences of hospitals are not easily available; secondly, to comment briefly on the care and conduct of a normal labour; and, finally, to review the unusual happenings noted in a series of one thousand four hundred confinements.

#### Type and Race of Patient.

The practice embraces a large coal-mining district, and the inhabitants include a large number of

immigrants, mainly from Northumberland and Durham, Ayrshire and other parts of Scotland, Irish and Welsh, with a sprinkling of Russians, Greeks and Syrians. Mongolians, Negroes and continental Europeans are not represented. The native born Australian is in the minority.

#### Sterilization of Equipment.

On commencing practice the young practitioner is faced with serious difficulty in transferring his teachings regarding asepsis and antisepsis into reality. Unless he has served an assistantship with one of the sound men that the profession possesses, he is forced to exercise his brain until he can produce a routine that will prove to be efficient, and usually this takes time and much travail. It cannot be denied that there is a large gap between the theories of student and resident days and the responsible work of midwifery in practice. It is hoped that the details here set out may be of some help in certain cases.

When one sees sterilization of forceps secured by simple immersion in a jug of boiling water, the handles being left uncovered, gowns laundered and then poked in the midwifery bag, confinements attended by nurses who have grown into their places by the process of bearing a large family and helping the "lady next door" until they become recognized as regular midwives (I am speaking of the days before the *Nurses' Registration Act*), then one realizes the difficulties that lie in the path of the new man who has to develop his methods with the dice loaded against him. We all realize that one of the most difficult things that fall to the lot of the young obstetrician, is the task of evolving order out of chaos in such an environment.

The advertisement of a small high pressure sterilizer proved to be the solution of a problem that had proved a serious obstacle to my own development of a satisfactory procedure, and then a little rearrangement finalized what I now consider to be a reasonably suitable sterilization of the gowns, sheets and leggings worn by patient and attendant during the course of labour.

The sterilizer consists of a seamless aluminium bucket with a lid secured by eight hinged screws and winged nuts, an inner aluminium shell and a sterilizing drum. One and a half pints of water are poured into the space between the shell and bucket; the drum, with the articles to be sterilized, is placed inside and the lid secured, and the sterilizer is placed over a "Primus" or gas flame. A safety valve on the lid blows off when the pressure reaches fifteen pounds to the square inch (representing 250° F.); and after fifteen minutes of this pressure another tap is turned and the steam is blown off. The apparatus is cooled down and the articles are sterile. It was necessary to devise a method of conveying the apparel, and the package which I use consists of: (i) Surgeon's gown (long sleeves), (ii) one pair of leg coverings, (iii) obstetrical sheet with central aperture, (iv) a sterile sheet on which to place the infant when born. This last mentioned

<sup>1</sup> Read at the second annual reunion of the Residents' and Ex-Residents' Association, Royal Prince Alfred Hospital, Sydney, October, 1931.

sheet is provided with tapes and acts as a cover for the "set". The gown, leggings and apertured sheet are folded and then the covering sheet is folded around and the tapes tied to hold it all secure. Four of these sets are sufficient for an average practice and three can be sterilized with one boiling of the sterilizer. When they are sterilized, a small tag is tied on and "sterilized" is written thereon with the date. They are kept in the drum till required and a packet can be put in the midwifery bag and is ready for use.

#### Armamentarium.

The midwifery bag must be big and carries a metal sterilizer for instruments in a separate compartment, opening with a flap door at the side. It contains the following: Sterilized set of gown, leggings and sheet, waterproof apron, two pairs of gloves (smooth), chloroform with mask, dropper and face-piece, two gauze roller bandages, three inches wide, tincture of iodine, "Pitocin" ampoules (or "Neo-infundin") one cubic centimetre, "Ergot Aseptic" ampoules one cubic centimetre, "Neo-silvol", 10% in distilled water (fresh), scopolamine ampoules, silkworm gut (coloured), chromicized gut numbers 2 and 3, plain gut number 1 (in containers), mouth gag and tongue forceps, one strap of webbing with buckles, one pair axis traction forceps (Neville Barnes), one bulb carbon dioxide with valve fitting, metal catheter (female), metal mucus catheter, needle holder (perineal needles and Mayo's trocar pointed, number 3), two pairs pressure forceps, two pairs dissecting forceps, one pair curved surgical and one pair dressing scissors, one each ovum forceps, Rheinstadter's flushing spoon and volsellum, one hypodermic syringe with 90 millimetre needles. Other special instruments, such as the combined cranioclast and cephalotribe, are not in the bag, but are easily procured from home if required.

The nurse provides sterile bowls, umbilical tapes, mouth swabs and swabs of sterile cotton wool which are boiled in saucepans in the house.

The patient provides mackintosh sheeting or, in the poorer homes, multiple sheets of newspaper stitched together, "Monsol", carbolic soap and either "Castile No. 4" or "Lancet" soap, Johnson's baby powder, and a bottle of brandy.

#### Antiseptics.

"Monsol" has replaced lysol in my practice for the last four years. The results are very satisfactory. Theoretically "Monsol" has a selective action on streptococci, and I think that practice confirms this. If another antiseptic were to be used, I think that Bonney's brilliant green-crystal violet mixture would take its place, but this antiseptic, though theoretically better than "Monsol" or lysol, stains the bed or other linen, and so its use is not practicable.

#### Nurses.

An obstetrician gets the nurse he deserves in the long run. It is difficult to overcome the prejudices

of the patient at once, but a persistent practitioner will in time persuade the pregnant woman to pass over the kindly and pleasant old midwife who confined the patient's mother, but who refuses to shave her patient's pubic hair, cannot take a temperature or count a pulse, and who possibly will produce a chamber utensil filled with water and a dash of lysol and use a dish-cloth to "swab up" her patient on request. One may fail to hold a few patients by insisting on a competent nurse, but in the end one feels sure that more patients are gained than lost by being particular.

The inefficient nurses are not yet all eliminated by the *Nurses' Registration Act*. Some become careless as they grow older. One certificated nurse assured me that she wore gloves in all her cases. She did. She opened the door for me in them when I came to her private hospital, and she certainly kept them on during the progress of the case to its end. Another certificated nurse called me rather early for a *primipara*, with the cervix barely five shillings dilated. I sat by the fire in the kitchen and waited. Loud complaints were presently heard from the bedroom, and on investigation the nurse was seen with gloved hands trying to dilate the cervix to help things along. Eventually the nurse was dismissed from the case and another obtained, but the woman developed puerperal septicæmia and spent six weeks recovering.

#### Anæsthetics.

Chloroform is the most suitable of anæsthetics for ordinary cases. Ether for eclamptic and toxæmic cases must be used, but it is pleasant for the patient neither before nor after the labour, and so is reserved for special indications.

"Avertin" may prove a supplanter of chloroform. My experience is yet limited, but the results are very satisfactory.

Mrs. W., aged twenty-three, a *primipara* with twin pregnancy (breech and vertex) was given a trial with "Avertin" (0.8 cubic centimetre of fluid "Avertin" per kilogram). It was administered *per rectum* at 4.30 p.m. and the whole labour was over by 5.45 p.m. A perineal tear of mild second degree was sutured, and apart from a few movements during the pains, the patient gave no bother. She spoke to me before leaving at 6 p.m., but slept till 9 p.m., and from her point of view the anæsthetic left nothing to be desired.

The patient can be weighed when she visits the surgery at the eighth month for her ante-natal examination, and the dose can be calculated in advance. "Avertin" is worth extended trial, and should be useful in the presence of toxæmic symptoms. Pituitary extract can be used with it, and, of course, morphine and magnesium sulphate, if given early during the progress of the labour, will give the advantages of a "twilight sleep".

#### The Conduct of a Normal Case.

All patients report monthly for the first six months and then every fortnight. At the first visit the history is taken as to previous labours, and then measurements are made and the date of

labour is calculated. Nipples are inspected and advice is given as to hardening them and for inversion, if present. The woman is told to purchase the "Parent's Book" and to study it, and the date is fixed for the final examination at the eighth month. The urine tests and other details are explained, and the usual instructions given regarding abnormal happenings.

If there is any doubt about the lie of the infant on the final antenatal examination, or if there is any possible fault in the passages, the patient is sent to be examined by X rays.

The patient is confined in her own home or in the private hospital. When the labour is sufficiently advanced the nurse sends a note by hand stating the name and address of the patient, the lie of the fetus, the amount of dilatation of the cervix, state of the mother and the fetal heart rate. Any abnormality is also stated (early rupture of the membranes, presence of meconium or bleeding *et cetera*). In hurried cases the telephone is used. It is possible to be at the bedside of most patients in twenty minutes or less. If it is obvious that the pains are of the second stage, chloroform is administered at once, and, when quiet, the patient is put up in the dorsal cross-bed position with the aid of straps. (The nurse has already shaved and prepared the patient.) The webbing strap is buckled round one thigh immediately above the knee, it is passed round the neck over the right shoulder and behind and under the left, to be buckled again above the left knee. Cotton wool is used to pad the knees and neck to prevent the edges of the strap cutting or chafing the patient. The patient may remain in this trussed-up position for two hours or more and does not complain of it afterwards. Further, by flexing the woman and pivoting her on her buttock, she can very easily be swung round to the cross-bed position by the obstetrician, and propped there by pillows if there be any tendency for her to roll to one side. It must be certain that the mattress is flat and not sagging, so the bed may have to be supported on pieces of wood pushed in under the wire mattress.

The gutter of mackintosh is arranged to lead into the tub, the patient being rolled first to one side and then the other, to enable this to be done. It is remarkable how easily a heavy patient can be moved about by the surgeon alone when trussed up like this. One disadvantage of the dorsal position is that, if the legs be not adducted during the final pains, a tear of the perineum is more likely than usual, but it is quite easy to adduct and thus relax the perineal tension when the head or presenting part is stretching the tissues towards the end.

The anæsthetic is continued by the nurse while the obstetrician dons the waterproof apron, scrubs up in two changes of hot water with boiled nail brushes. The nurse then unties the tapes of the sterile set and the gown is put on, and then boiled gloves. The leggings are drawn over the patient's legs, the central sheet is applied and the operator seats himself comfortably on a chair facing the perineum which is clearly visible through the central aperture.

Thus there is obtained a perfectly sterile operating field with every advantage over the lateral position.

"Pitocin" (one cubic centimetre) is then given intramuscularly and delivery proceeded with. The central sheet sometimes tends to become displaced and to remedy this I have used towel clips to clamp the central aperture to the skin round the *ostium vaginae*, but unfortunately the patient is liable to object and wriggle uncomfortably unless the anæsthetic is pushed more than usual. Between the pains the nurse lifts the sheet by the corners and holds a vulcanite monaural stethoscope above the pubes for the operator to listen to the fetal heart sounds, thus determining that the fetus is making no demand for speed.

After delivery the chair is covered with the sheet which had surrounded the bundle, and the baby is placed thereon, thus enabling further handling without breaking the aseptic chain. When the pulsation of the cord ceases, it is tied off with one single tie (provided, of course, that the pregnancy is not multiple) and the cut cord is finally allowed to drip the residue of placental blood into the tub. I believe that this brings about an easier and more successful third stage.

The eyes of the infant are treated immediately with saline solution swabs and then 10% "Neosilvol" solution is dropped in each eye. After three minutes saline solution is again dropped into the eyes. Thus any excess of free silver may be neutralized and damage to the conjunctiva thereby prevented in sensitive eyes. I incline to the belief that the prophylaxis of the eyes is not altogether harmless.

Usually in from ten to fifteen minutes the placenta is free and can be easily expressed. Recently, the author of an article in *The British Medical Journal* suggested extracting the membranes by direct traction without roping, but I am not convinced that this offers any improvement on the roping method. One of the causes of the loss of a little membrane may be explained by the fact that very often a little blood becomes caught up in the small sac of membranes, and as one extracts this "blood balloon" it becomes a very tight-fitting plug in the cervix, and traction will cause a tear and membranes will be retained. If a couple of pressure forceps are applied to the membrane near the perineum and the rest of the afterbirth is cut away, a little delay will enable the uterus to express the blood, or it may be squeezed out from above by pressure. Or one may find that the few ounces of maternal blood that escape when the placenta separates, have escaped into the cavity of the secundines. On expressing the placenta this blood sags into the membranes and, being weighty, tends to cause the last little piece of membrane to tear off, unless one snips through the membranes with scissors and allows the clot to escape. In my own experience I do not find that "Pitocin" has any tendency to pinch the membranes and cause difficulty in extraction.

Ergot is then given into the buttock (one cubic centimetre "Ergot Aseptic" or "Ernutin") and I



should like to say now that I have not in my own practice seen *post partum* hæmorrhage of more than an occasional half cup or so when the uterus is slow in contracting. If there be any tendency to hæmorrhage, it is easily controlled by placing the patient prone; the uterus then almost at once rises and becomes an abdominal organ again. Undoubtedly the dorsal position tends to prevent this rising of the uterus.

The perineum and the cervix are inspected for tears, and if a tear is present (which happens fairly often, despite all delay on the perineal floor and every effort to prevent it), suturing is carried out in the same detail as in the operative repair, deep buried sutures being used for the muscle and number 2 chromicized gut for the mucosa, and plain gut for the skin. Care is taken to suture the transverse perineal muscles and make this a solid central body to the perineum. Two or three relaxation sutures are tied fairly loosely, and dressings applied. The dressing consists of pads scorched black and almost charred in front of the fire; they are, I think, quite as efficient as if they had been boiled first.

The leggings and sheet are removed and the straps unbuckled. Pivoting the patient on her buttocks again, she is swung back in her bed and rolled over to one side while the nurse removes the soiled protecting pad. The application of a warmed blanket and hot-water bottle concludes the labour. The following mixture is prescribed:

*Liquor morphinæ hydrochloridi*, 0.6 mil (10 minims).  
*Tincturæ belladonnæ*, 0.45 mil ( $7\frac{1}{2}$  minims).  
*Tincturæ cardamomi compositæ*, 1.2 mils (20 minims).  
*Aquam ad*, 15.0 mils (half a fluid ounce).  
 Fifteen mils or half a fluid ounce to be taken when the pains are felt.

Make sure as a final precaution that the child is free from physical defects, such as imperforate anus, nævi, club-foot *et cetera*. Inspect the *frenum linguae* and the prepuce. The latter is usually dilated with forceps until it can be retracted over the glans, and very often this requires little effort; occasionally it is more difficult, but I think that a little care will render circumcision unnecessary. Here, as in any other part of the body, unnecessary surgery I believe to be wrong primarily, and a continuation of the retraction of the prepuce by the nurse, and later the mother, will often obviate circumcision. The *frenum linguae* may be snipped if binding the tongue down. During my earlier days in practice I often went to a lot of trouble explaining just why the taut frenum was harmless; now I think it unæsthetic to have a tight frenum and so will snip the tongue if requested.

The mother stays her ten days in bed if delivery has been normal, and three weeks if perineorrhaphy has been necessary. After three weeks she comes to the surgery for her post-natal examination and is told to take the baby to the health centre every week, preferably on the day when I attend. Very often a retroversion of the uterus is discovered at this examination, and a mixture of ergot and quinine is given with questionable effect. Serial reports show that the uterus often rights itself

later, and this apparently depends on the mother and her health generally.

#### Abnormalities.

The abnormalities encountered in the series of 1,400 cases may be described as follows.

**Eclampsia.**—Eclampsia is not common in severe form. Mild degrees towards the end of pregnancy have always responded to rest in bed, light diet and *mistura alba*. Daily urinary tests are made with Esbach's albuminometer. Only three eclamptics gave trouble in the form of fits. Two of these started their fits when under ether anæsthesia. Only one gave further trouble, and she was unconscious for five days (she had been in bed for six weeks prior to labour) despite bleeding, injections of glucose and insulin, lumbar puncture, enemata and stomach wash-outs. She finally recovered, but her eyesight was defective for six months and her mentality seemed very slow in recovering. As she was one of a famous set of triplets, one can imagine the desire not to break the set. All other eclamptics recovered completely.

**Chronic Nephritis.**—There was only one case of chronic nephritis. The fœtus died at five months. Both this patient and the eclamptic just mentioned came from Sydney, and I was not personally acquainted with their previous history. Both were *primiparæ*. The patient with chronic nephritis had a systolic blood pressure of 225 and a diastolic blood pressure of 160 millimetres of mercury and was treated by vaginal hysterotomy and did not feel any ill effects of the operation. She has since returned to Sydney and is at present under the care of one of the physicians in the out-patient department at this hospital.

**Contracted Pelvis.**—Contracted pelvis is not common. Flat pelvis of a minor degree is most often seen and does not cause any apprehension. Trouble arose in one case only. This was that of a woman whose first baby was delivered with some little delay. Her second delivery, however, was more difficult, and the child developed a brachial palsy. Her third child was delivered by Cæsarean section, and she was sterilized.

There was only one patient with a laterally contracted pelvis, and she has been delivered twice with no difficulty.

An *equilater justo minor* pelvis occurred in a small woman with a small baby and no disproportion, and there was no difficulty.

In a patient with a contracted outlet (funnel pelvis) the upper measurements were normal and the first labour was very difficult. The fœtus was extracted with forceps and a great deal of trauma, both maternal and fetal. The infant survived twenty-four hours only. I performed Cæsarean section on her for her two succeeding pregnancies, and possibly will sterilize her if she again becomes pregnant.

**Prolapse of the Cord.**—Prolapse of the cord occurred once. Attempt at reposition failed. The membranes had ruptured early, the child was dead

and the mother exhausted. The cranioclast and cephalotribe were used for extraction. Three previous confinements had been easy and normal.

**Placenta Prævia.**—There were four cases of *placenta prævia*. They were treated by bringing down the half breech after internal version. The mothers all recovered, but all the babies died. I now carry Willett's forceps and will try to save the fœtus in future by their use.

**Accidental Hæmorrhage.**—Accidental hæmorrhage has not been common, and rest in bed has tided the patients over till labour has set in (prematurely in some cases). One case of concealed accidental hæmorrhage was very interesting.

Mrs. S., aged forty-two, full-time, was being driven in a Ford motor car over a very bumpy road at a greater speed than usual, as a storm was seen to be imminent. At one bad jolt she felt a severe pain in the right iliac fossa and had the car stopped. Three days later she fell into labour, and when the nurse sent for me the fœtal heart beats were absent and the child was born dead, and had been dead for several days. The centre of the placental site showed a clot the size of a cricket ball, which was firm and dark. Obviously the bump had caused partial separation of the placenta with consequent insufficient blood supply to the fœtus.

**Cæsarean Section.**—I think one needs to remember that in a report on maternal mortality published in Massachusetts the greatest number of deaths were due to puerperal sepsis, with Cæsarean section as the next most common cause. Cæsarean section does not appeal to me for cases of eclampsia or *placenta prævia*, though in the latter condition, if one could diagnose the condition early enough before the onset of labour, it might be ideal.

In this series there have been three Cæsarean sections.

The first patient was Mrs. S. She had had three children and had a slightly flattened pelvis. Her first child was born with little difficulty; the second delivery, however, was not so easy, and a brachial palsy developed. In consequence, when she became pregnant again, Cæsarean section was performed and the patient was sterilized.

The other two operations were performed on the one patient. She had a funnel pelvis and her first baby was delivered with forceps, but suffered in the process and died in forty-eight hours in convulsions. She has had two normal infants by Cæsarean section and has not been sterilized.

I feel sure that there was no need for Cæsarean section in any other of my series of confinements.

**Version.**—Breech presentations are turned usually with ease at the ante-natal visits. I have failed to turn the fœtus on one occasion (*primipara*). Buist's pad for persistent occipito-posterior presentations has not been used, but is being remembered for use when occasion arises.

**Induction of Labour.**—The method of Watson (castor oil and quinine) has been used with great success. Before going on holiday I have made it a practice to induce labour in those patients whose confinements are about due and who are either likely to give trouble or else who wish that I should attend them personally. My experience covers some twenty cases, and so far every patient has responded to the method. The text books quote

failures in 10% to 20% of attempts, but in only one instance (the breech case quoted above in which turning could not be effected) was there any delay. A repetition next day had the desired effect. This patient was very nervous and did not help herself at all.

**Forceps.**—The use of forceps is avoided whenever possible. When there is need for haste to save the life of mother or child or to avoid wearying an already exhausted mother, there is a clear indication for their use. But they increase the risk of tearing the perineum and of incurring sepsis, and may injure the child. Cuts and facial paresis do not help you in your practice. The use of pituitary extract (preferably "Pitocin" or "Neo-Infundin") will speed up any delayed labour that is an excuse for haste apart from obstruction. Forceps may be used to alter abnormal presentations at times and for certain difficult cases.

**Abnormal Presentations.** Abnormal presentations are rare. Persistent occipito-posterior presentations are the greatest obstacles, and one is likely to end up with a sick and exhausted mother and a dead fœtus if the position is not recognized. One learns by experience if one is using forceps and the head does not advance, that one may have mistaken the fontanelle and that one is dealing with a persistent occipito-posterior presentation.

There has been one face presentation in this series. The child was born with the face presenting before anything could be done and without any extra laceration of a badly torn perineum left as a legacy from the previous pregnancy.

Breech presentations are rare at delivery and are due to the failure of the mother to report for ante-natal examination. The hot breech cloths are useful.

**Lacerated Perineum.**—Laceration of the perineum is fairly common, despite the utmost care taken by delaying and controlling the fœtal pressure. As a rule the tearing is not complete. Sutures are inserted immediately, and healing is good. As experience grows, the lacerated perineum is being obviated by episiotomy.

**Episiotomy.**—Episiotomy is a valuable procedure and perhaps is not employed widely enough. To appreciate its value one has only to see the neat incision of this operation and compare it with the hopelessly lacerated vagina with islands of mucosa and a disrupted perineum which one attempts to sew up afterwards.

The lateral episiotomy is recommended by the text books, but surely the central is the method of choice. If a general anæsthetic is used, the tear can be prevented from extending into the rectum, and it is more anatomical to divide the fibrous raphé than to cut across the muscle, and the bleeding is less than in the lateral operation. The clean cut heals easily and the exact amount of tissue to be cut is easily determined after some little experience.

**Retained Membranes.**—Retained membranes are not often encountered, but sometimes the membranes seem to be particularly weak, and the utmost care is needed to extract them without breaking

their continuity. If the inspection of the placenta reveals an obvious defect, the missing parts can often be found by using an ovum forceps at once, and I think that this is better than trusting to nature to extrude them.

**Adherent and Retained Placenta.**—An adherent and retained placenta is rare, and manual removal has had to be employed on one occasion only.

#### *Abnormalities and Lesions of the Fetus.*

**Jaundice in Infants.**—Jaundice in infants is rare and may be connected with the fact that the cord is not tied till all the blood from the placenta is within the fetal circulation or else it may be due to the lack of aseptis.

**Brachial Paralysis.**—There has been one case only of brachial paralysis (referred to above), and treatment with an aeroplane splint produced a good but not perfect result.

**Depressed Fracture of the Skull.**—One case only of depressed fracture of the skull occurred. The depression could not be removed by compression of the skull manually, but open operation was easy and the result perfect.

**Cephalhæmatoma.**—Three cases of cephalhæmatoma were encountered. The clot absorbed in three or four months and left no ill effects. The cases occurred in deliveries that presented no particular difficulty, and there was usually an absence of trauma of any degree on the part of the operator. The parents are usually alarmed, and it is well to explain the simpleness of the condition carefully and to point out that the brain is not affected.

**Facial Paralysis.**—Facial paralysis in this series was always due to forceps. There were six cases, all unilateral in type. The paralysis disappeared completely within three weeks.

**Cerebral Hæmorrhage.**—Cerebral hæmorrhage occurred in two infants.

The first was born after a difficult persistent occipito-posterior presentation in an unmarried *primipara* and was obviously very ill from birth, with convulsions and right-sided paresis and partial blindness. This infant died recently at the age of five years from an acute illness accompanied by convulsions of a Jacksonian type. The convulsions were confined to one side of the body and were complicated by severe vomiting and a high fever. Operation was considered, but it was finally decided that the condition was toxic and the Jacksonian character due to the injury at birth. Autopsy confirmed this, for the right side of the brain in the area of the motor cortex was almost completely destroyed by the old hæmorrhage. The toxæmia was due to an acute gastritis.

The second case was in the first labour of a young woman of twenty-six years. The labour was easy and almost precipitate. The child was apparently normal at birth, but became convulsed on the third day. Lumbar puncture yielded pure blood and a craniotomy showed free blood in the subdural space, but it was impossible to find any vessel to tie, and the child died four days later.

**Hæmatoma of the Sterno-Mastoid Muscle.**—One case of hæmatoma of the sterno-mastoid muscle occurred in this series. The delivery had been effected by forceps prior to my taking over the case. There has been no visible after effect.

**Club-Foot.**—There have been three cases of unilateral congenital talipes, in each case *equinovaglus*. These have all been treated with a moulded aluminium splint, and the result has been a normal limb in the first two patients. The third is still under treatment and is not responding so well. The double aluminium splint described in a recent number of *The British Medical Journal* by Denis Brown, is now being tried, and failing that it is proposed to do a tenotomy and apply a plaster cast.

**Ophthalmia neonatorum.**—There have been two cases of *ophthalmia neonatorum* and they occurred in both instances in first births. One child was the illegitimate daughter of a Chinese and a white girl. These two regrettable infections are explained by the fact that when I first commenced practice the nurse used to be instructed to instil the drops of 1% silver nitrate solution, and as in those days the nurses were of the type described above, it is certain that no prophylaxis was given. The drops are now instilled by me as soon as the head is born.

"Neo-silvol", 10% solution, is used as a routine, and a number of cases of muco-purulent conjunctivitis persist in a mild degree. These do not all respond to saline solution nor boracic lotions and "Neosilvol" drops. The eye specialist has secured a cure by probing the lachrymal duct in some cases, while in one other he has had to extirpate the sac. As three of these cases occurred in the consecutive infants of one woman, and they were not gonococcal, two reasons may be given. Either there is a congenital narrowing or absence of the duct, or else the organic silver salt used may irritate the ducts and cause their occlusion. We are particular to use fresh preparations, and now wash out the silver with a saline lotion three minutes after instillation.

**Hæmorrhagic Diathesis of the New-Born.**—Three infants commenced to bleed either from the cord stump or bowel within a few days of birth, but they all recovered, some as a sequence of the intramuscular injection of "Hæmostatic Serum" or "Coagulen", and two had an injection also of one cubic centimetre of whole paternal blood.

**Tongue Tie.**—Tongue tie is common enough, and worries the parents. It has never been so marked as to need treatment from physical effects, but it is almost a deformity and experience advises that both parents and patient will be pleased if the frenum is incised sufficiently to free the tip.

**Cleft Palate and Hare Lip.**—There has been only one case of cleft palate and hare lip, and it was treated by the usual surgical methods.

**Extroversion of the Bladder.**—One infant presented extroversion of the bladder, but it died of infection before operative measures could be attempted. Transplantation of the ureters was contemplated.

**Hypospadias.**—Hypospadias has been met with in the mild first degree on three or four occasions and has not needed treatment.

**Congenital Stricture of Urethra.**—There was a single baby with congenital stricture of the urethra,



a thin sheet of membrane almost occluding the urethra about half an inch from the meatus. A small sound cured this.

**Nævus.**—Nævi are constantly met with, often on the scalp. It is the custom now to treat these by diathermy, but they used to be surgically excised. Nævi are watched, and if they show signs of embarrassing increase of size in important sites, they are at once attacked. The results of diathermy in multiple nævi in the lip and tongue in an infant of three months was most encouraging, as there was no contracture and a very small scar.

**Anencephalus.**—There have been two cases of anencephalus. They were both associated with hydramnios.

**Spina Bifida.**—There were two fœtuses with *spina bifida*. Both died of ulceration and sepsis with meningitis. Treatment was impossible.

#### Fatal Post-Natal Mortality.

Apart from those mentioned above, post-natal deaths come under the heading of atelectasis or prematurity.

**Atelectasis.**—There were thirteen deaths from atelectasis, mostly due to difficult or delayed labour, usually, therefore, in *primiparæ* who may not have made good use of their pains. "Avertin" anaesthesia may be indicated here. The *post mortem* findings have not suggested any gross lesions. Tenacious mucus adhering to the larynx may help account for some of these deaths, though the mucus catheter was always employed.

**Prematurity.**—There were twenty-five deaths from prematurity. These figures are easily the greatest in the infantile death rate, and it seems difficult to discover how to avoid this mortality of nearly 3%. Syphilis, as proven by the Wassermann test, had nothing to do with this death rate.

#### Maternal Mortality.

Three women in this series of cases have died from direct results of child-birth. One died on the third day unexpectedly, and *post mortem* examination failed to reveal the cause. Possibly a pulmonary embolus was the cause. There was no sign of sepsis. The other two died of puerperal sepsis. Both were feeble and weak before delivery. One, aged thirty-three years, had a precipitate labour and the nurse arrived to find her and the baby on the floor amid a mass of blood and faeces. Obviously the infection occurred in this manner. The other woman was toxæmic, but not eclamptic, and died shortly after labour with a condition which suggested acute yellow atrophy, but was more probably due to infection, as *Bacillus aerogenes capsulatus* was found in both uterus and liver.

I think that vitamin feeding and a dose of anti-streptococcal serum would have done her good during her pregnancy.

#### Maternal Morbidity.

It is difficult to present figures for maternal morbidity. The end results of retained membranes,

internal manipulations, toxæmias and hæmorrhage are seen in the operating theatres years later, and undoubtedly the responsibility for some of this rests on the obstetrician.

#### Conclusions.

The more care that is bestowed on the individual patient in child-birth, the better will be the result. A review of the operation records of this hospital of the patients under my own care shows the marked preponderance of gynæcological operations. In this district we have very little venereal disease (seventy cases in ten years), and yet the gynæcologist is very busy. During a surgical practice dating back ten years, there have been one hundred and forty-one operations performed for the repair of old lacerations of the perineum. Six of the operations were on perineums which had been sutured by myself for lacerations which failed to unite. The others were "legacies" (in many cases from immigrating families). It is noteworthy that, though a medical examination is needed for all immigrants before leaving Great Britain, many women are passed out to this country as fit who are nevertheless the subject of varying degrees of uterine prolapse. Naturally, unless the examiner definitely set out to exclude this condition, it would be easy to pass it over, yet would-be immigrants with such lesions as goitre and other obvious surgical conditions are compulsorily sent to the surgeon before being passed as fit for immigrating overseas.

For every operation of repair to the pelvic outlet this operative series shows at least two other pelvic operations, mainly for tubo-ovarian complications, and the causal factor of these is, I think, maternal morbidity from child-birth. The responsibility of the *accoucheur* is therefore grave, and it behoves him to see that no woman has her burden made heavier than possible. He should therefore refrain from unnecessary interference during the natural process of labour and, when interference is needful, should work speedily and with the utmost asepsis. And I think that the man away from the close help of a hospital will appreciate the possibility of easy and complete sterilization of his outfit if he will employ the portable sterilizer which inspired this article.

### Reports of Cases.

#### RESPIRATORY FAILURE TREATED BY ENDOTRACHEAL INSUFFLATION.

By GILBERT BROWN, M.B., Ch.B. (Liverpool),  
Adelaide.

RESPIRATORY failure, from any cause, is a condition which requires prompt and efficient treatment, or death will rapidly follow. Artificial respiration is an exhausting process for the operator, and frequently causes bruising and soreness of the patient. In some cases of obstructive respiratory failure, no treatment may be of any use until a tracheotomy or laryngotomy has been performed. Though a patient may be grateful for his recovery, he will seldom

be pleased to find that it has been deemed necessary to make a hole into his windpipe. All these difficulties and dangers may be avoided by passing a tube through the mouth or nose into the trachea and insufflating the lungs with air. Endotracheal anaesthesia is so frequently administered that a direct laryngoscope is available in the operating theatre of every large hospital, and in the bag of most anaesthetists. In the absence of a laryngoscope it is a simple matter to pass a gum elastic catheter between the vocal cords by touch. The patient's jaw muscles are often relaxed, and then no gag is required. The tongue is drawn forward by forceps, and the index and middle fingers passed over it until the epiglottis is felt. The epiglottis is held forward and a gum elastic catheter, slightly bent at a point three centimetres (one and a quarter inches) from the tip, is passed along the middle finger and inserted between the vocal cords. This catheter is then attached by rubber tubing to an endotracheal ether machine or a cylinder of oxygen, or a cylinder containing a mixture of oxygen with carbon dioxide, in the proportions of nine to one. Air or oxygen enters through the catheter and aerates the lungs; the excess escapes between the catheter and the vocal cords. As long as the heart is beating the blood will be aerated, whether the respiratory movements are present or not.

The following are the notes of five patients treated in this manner with recovery.

**CASE I** (Record 448 and Blood Pressure Chart 373 of May 27, 1925). F.P., a male, aged sixteen years, received a blow on the head while playing football on May 25, 1925. He was taken to hospital on the following day on account of headache and drowsiness. On May 27, 1925, a physician was called in consultation and it was decided to perform lumbar puncture. This was done and some cerebro-spinal fluid was drawn off; respiration ceased immediately. As the heart was still beating strongly, artificial respiration by Sylvester's method was commenced and continued for nearly an hour, until the patient was taken to the operating theatre. The pulse rate was then 84 per minute, the systolic blood pressure 88, and the diastolic 60 millimetres of mercury. The pupils were dilated and equal.

A catheter was passed into the trachea and connected to the blower of an Israel Carmody anaesthetic apparatus. Artificial respiration was dispensed with, the scalp was prepared, and a subtemporal decompression performed. A large clot of blood was removed, the origin of which appeared to have been a meningeal vein. The pulse rate had by this time fallen to 60 and the blood pressure to 68 millimetres of mercury, systolic, and 48 diastolic. It was decided to try the effect of altering the patient's position to that of inversion, in order to disimpact the medullary cone from the *foramen magnum*. Unfortunately, in doing this, the electrical connexion of the blower was broken and artificial respiration had to be renewed for ten minutes while repairs were being effected.

The patient's condition appeared unchanged, and he was once more placed flat on the table. The blowing was again commenced, and one cubic centimetre of pituitary extract was administered intramuscularly. Shortly afterwards there was a slight respiratory movement, the pulse rate rose to 72 per minute, and the blood pressures to 94 and 72 millimetres of mercury. Respiratory movements gradually became stronger and more frequent, so that ten minutes later the blowing could be stopped and the catheter removed from the trachea. The patient was returned to bed breathing well, at a rate of 16 to the minute; the pulse rate was 80 and the blood pressures were respectively 94 and 70. For the next four hours his condition was good and the respiration was full and regular. The pulse then weakened rapidly and death took place fifteen minutes later. Death was probably due to the damage caused to the cerebral centres by the prolonged depression of the circulation.

**CASE II** (Record B 769 of September 24, 1925). H.S., a male, aged fifty-six years, was admitted to the Adelaide Hospital at noon, suffering from a large gash in the throat, involving the trachea. He was very anæmic from loss of blood and had an irritating cough due to the inhalation of blood through the tracheal wound. Because of this cough it was decided to administer alcohol, chloroform and ether

mixture. While the anaesthetist was attaching the blood pressure apparatus, an eager medical student obtained the mask and began the anaesthetic. Almost immediately the respiration stopped and the radial pulse could not be felt. As the laryngoscope was not available, a catheter was passed into the trachea through the mouth, by the digital method. It was attached to Mott's endotracheal apparatus, and a full stream of air was blown into the lungs. The heart began to beat and respiration was reestablished. Ether was then turned on and anaesthesia maintained for forty-three minutes while the bleeding vessels were secured, the wound sutured, and saline solution with brandy given by the rectum. The patient left the operating theatre with a palpable radial pulse rate of 144 per minute and a respiration rate of 24. His convalescence was uneventful.

The recovery in this patient is probably explained by the fact that the sudden inflation of the lungs by the blower pressed on the heart and stimulated it to resume its function.

**CASE III** (Record 288 of April 16, 1928). K., aged forty-six years, had been operated upon two days previously for excision of an epithelioma of the lip and cervical glands. His condition had been satisfactory for forty-eight hours, at the end of which period the drainage tubes were removed. Shortly after this there was hæmorrhage into the tissues of the neck, which caused dysphagia and increasing dyspnoea. As he was very restless, a hypodermic injection of morphine in a dose of 0.016 gramme (one-quarter of a grain) was given at 5.40 p.m., and a further injection of 0.01 gramme (one-sixth of a grain) at 6.25 p.m. When he was brought into the operating theatre at 6.45 p.m. he was dusky and so orthopneic that he required three pillows in addition to full elevation of the head of the table. The swelling of the neck was very great, his pupils were pin point in size, the pulse rate was 96 and the respiration was 24 to the minute and very shallow. A little chloroform was given on a Schimmelbusch's mask covered with one layer of flannel, held about 2.5 centimetres (one inch) from the face. The breathing became easier and the head was gradually lowered by taking away the pillows. The sutures were removed and some blood clot evacuated, when suddenly the respiration ceased and the cyanosis increased. Tongue traction and artificial respiration were tried without success, and a tracheotomy appeared to be imminent. However, it was decided first to attempt to catheterize the trachea, although the oral opening was very small, owing to the operation on the lip. On the introduction of the laryngoscope it was noticed that there was marked oedema of the mucous membrane of the mouth, throat and glottis. A catheter was passed into the trachea and oxygen and carbon dioxide administered through it. The colour immediately improved and respiration began afresh. The neck wounds were widely opened, hæmorrhage arrested and the skin resutured. The patient was returned to bed in good condition and made a satisfactory recovery.

The anaesthetic chosen in this case was chloroform, ether being contraindicated because it might produce hyperæmia and so still further reduce the airway, which was already inadequate. It would have been easy to perform tracheotomy, as the trachea was exposed, but owing to the state of the surrounding tissues, there would have been considerable risk of a huge septic wound or pneumonia.

**CASE IV** (Record 517 of August 11, 1930). W., a male, aged fifty years, was operated upon by Sir Henry Newland for excision of a cerebellar pontine tumour. He was anaesthetized by the open method in seven minutes, requiring eight cubic centimetres of ethyl chloride and fifteen cubic centimetres of ether. Just as full anaesthesia was obtained the respiration stopped, the face became dusky and then more and more cyanosed. A catheter was passed into the trachea and air was blown through it into the lungs from a Connell's ether apparatus. The colour at once became good and respiration was resumed. The patient was then placed face downwards over the end of the operating table and the operation begun. The entire tumour was removed and the patient returned to bed in good condition after an operation lasting four hours. Convalescence was normal and recovery excellent.

CASE V (Record 585 of September 3, 1930). J. McD., aged thirteen years, was suffering from a cerebral tumour. There were pronounced pressure symptoms in spite of a left subtemporal decompression, which had been performed three weeks previously. The pupils were dilated and irregular, and optic neuritis was marked. He was deaf on one side, had severe headaches, and vomited frequently. It was decided to perform a subtemporal decompression on the other side. He was anaesthetized by the open method in five minutes, six cubic centimetres of ethyl chloride and twenty cubic centimetres of ether being required. Just as muscular relaxation was obtained the respiration ceased and he became cyanosed. An endotracheal catheter was passed, and air was blown through it into the lungs from a Mott's ether apparatus. The normal pink colour returned and respiration was resumed. Ether was then turned on, and the operation performed. The patient left the theatre without any respiratory discomfort and in good general condition.

#### Conclusions.

Endotracheal insufflation of air or oxygen is a simple and efficient treatment for respiratory failure from any cause.

### Reviews.

#### ROSS AND HIS WORK.

THE announcement of Sir Ronald Ross's intention to visit Australia may stimulate interest in Mr. R. L. Mégroz's book, "Ronald Ross, Discoverer and Creator".<sup>1</sup> Ross is a many-sided man. In addition to making his famous discovery, he has engaged in mathematical research, composed music and published several novels and books of verse. Mr. Mégroz has divided his book into two parts; the first is biographical and scientific, and the second deals with Ross's literary work.

Part I gives a brief account of Ross's earlier years, his career in the Indian Medical Service, his discovery of the malarial parasite in the stomach of the *Anopheles* mosquito and his researches in the higher mathematics, and relates, with a good deal of indignation, how unfairly he was treated. Chapter VII is entitled "The Discoverer Punished".

Part II deals with his literary work and consists largely of quotations from it. The author considers that Ross is a literary genius, and quotes Masfield in support of his view. In the last chapter he returns to the allegation that Ross has been badly treated and makes the apology:

A lay reader, whose knowledge of the subjects in medical science covered by this book is no more than what the writer has been able to offer in these pages, will certainly feel that a recurrence of the theme of Ross's ill-treatment after he had made his historic discovery is unnecessary, and perhaps tiresome. The lay reader, however, and probably a big proportion of the medical and scientific world, is in a condition of such dangerous innocence respecting the facts about any first-class scientific discovery in medicine that the overwhelming case of Sir Ronald Ross cannot be over-emphasized. The present writer has been recently convinced that an almost parallel instance of the victimization of an original worker is, in this very year of disgrace, developing in the sphere of cancer research, which has been correctly described as one of England's most important new industries.

This quotation and the dedication of the book "To all true hero-worshippers" will enable "a big proportion of the medical and scientific world" to assess the value of Mr. Mégroz's dissection of "the flaccid tissues of long-dead issues offensive to God and mankind". Full credit has been given to Ross in British medical schools for the last thirty years; he received the Nobel Prize and recently, when news of his financial difficulties was published, subscriptions flowed in from all parts of the world. Mr.

<sup>1</sup> "Ronald Ross, Discoverer and Creator", by R. L. Mégroz, with a preface by Osbert Sitwell; 1931. Demy 8vo., pp. 282, with plates. Price: 10s. 6d. net.

Bernard Shaw gave characteristic, if blasphemous, advice to a friend who informed him that he intended to found a new religion: "Then you must arrange to be crucified". Does Mr. Mégroz fear that his disciples will lack fervour if they are not persuaded that their hero has suffered persecution and neglect? Mr. Mégroz is a literary, not a scientific, worker and may not be able to grasp how opposed is his attitude to "The Spirit of Research".

#### MINOR SURGERY.

R. J. McNEILL LOVE has edited the second edition of Fifield's "Minor Surgery", which presents in a very readable form the teachings of the London Hospital in this important branch of surgery.<sup>1</sup>

The author in the early chapters discusses the examination of the patient, asepsis and antisepsis, and the pre-operative and post-operative treatment of patients.

As the author states in his preface, the book is intended for students and practitioners; consequently such subjects as infections of the hand, fractures, minor surgical procedures, cellulitis and abscess, are more extensively dealt with, and in a practical manner.

It is a work which can be recommended to students, house surgeons and practitioners, and should receive a hearty welcome from those for whom it was intended.

#### PHYSIOLOGY.

HALLIBURTON'S "Handbook of Physiology" has been a standard text book in physiology for British medical students for so many years that it requires little introduction.<sup>2</sup> In the production of the eighteenth edition Professor Halliburton had to assist him Professor McDowall, and considerable changes were made in the book. Now, in the new nineteenth edition, Professor McDowall's name appears with that of Professor Halliburton as joint author. The revision in this edition has been very extensive and the subject brought well up to date. A new feature is a greater use of a heavy type for headings of sections and for numbers which the authors consider students should memorize. The book is slightly smaller than previous editions, but the omission of unessentials and the rewriting and rearranging of much of the matter has made a distinctly better text book.

"Halliburton" in its new form can be confidently recommended to anyone requiring a brief but accurate account of the position of modern physiology. It is still essentially what it set out to be, a text book for students in the earlier years of a medical course.

### Analytical Department.

#### "VITA-WEAT."

FROM the nutritional and dietetic point of view the deficiencies of the bleached devitalized product of the modern flour mill are notorious, but the demand for fine white flour is universal and there is no likelihood of its being displaced from popular favour. To meet these deficiencies, of which the chief are lack of vitamin content and absence of "roughage", which is an incentive to mastication and a stimulant to peristalsis, various "whole meal" products are on the market. "Vita-Weat Crispbread" is manufactured in Sydney by Peek Frean (Aust.), Limited, biscuit manufacturers, in their factory at Mallett Street, Camperdown.

The factory was inspected by our representative and the process of the manufacture of "Vita-Weat Crispbread"

<sup>1</sup> "Minor Surgery", by L. R. Fifield, F.R.C.S.; Second Edition, revised by R. J. McNeill Love, M.S., F.R.C.S.; 1931. London: H. K. Lewis. Crown 8vo., pp. 447, with 281 illustrations. Price: 12s. 6d. net.

<sup>2</sup> "Handbook of Physiology", by W. D. Halliburton, M.D., LL.D., F.R.C.P., F.R.S., and R. J. S. McDowall, M.B., D.Sc., F.R.C.P., Nineteenth Edition; 1930. London: John Murray. Demy 8vo., pp. 852, with illustrations. Price: 19s. net.



viewed in its entirety. "Vita-Weat" is prepared solely from whole wheat, water and coconut fat. The wheat is specially selected for evenness of grain, and is cooked in saturated steam for some hours. This cooking, it is claimed, bursts the starch granules and completely gelatinizes the starch. The mass is then stone milled, and the completeness of the crushing is evident to the eye. After milling, in order to make a satisfactory dough, a small quantity of coconut fat is added in a mixer. The dough is rolled into a thin, broad sheet and travels under a stamper which forms the individual biscuits, rejects being thrown by hand on to a carrier band which returns them to the dough mass. The individual biscuits are arranged on baking tins and placed in an oven, being subjected to a temperature between 400° and 600° F. At the other end of the oven the trays are lifted off by the packers. The finished biscuit or "crispbread" measures about two and a half by four inches, and weighs on the average about fifty-two to the pound. It is crisp, slightly browned and has a pleasant nutty flavour.

The manufacturer's analysis gives the following figures:

Water .. .. .	3.00
Fat .. .. .	6.05
Carbohydrates <i>et cetera</i> .. .. .	74.64
Proteins .. .. .	14.05
Mineral matter, ash <i>et cetera</i> .. .. .	2.26

It is claimed that vitamins A and D are present in active condition and that the vitamin B of the whole wheat is present in its entirety. The caloric value is quoted as 2,132 per pound and that of fresh white bread as 1,210 per pound.

The factory is housed in a modern five-storey building, well suited for the purpose. It is exceptionally well lighted and ventilated. On a warm day it was pleasantly cooler inside the building than it was outside. The general cleanliness of the factory and the smartness in appearance of the employees were all that could be desired. As the hands of those employees engaged in the manufacture of sweet biscuits might become affected with sugar dermatitis, there is a daily hand inspection. Though no case of dermatitis has been discovered as yet in the Sydney factory, it is pointed out that the daily hand inspection serves the purpose of encouraging the employees to take pride in their hands.

The general impression left by the visit to the factory was very favourable in every respect.

Our analyst submits the following report:

An unopened tin was received from the factory and some biscuits were purchased from a freshly opened tin at a shop. The first will be called "A" and the second "B". Twelve to fifteen biscuits were ground finely, were mixed thoroughly and were rapidly transferred to stoppered bottles and used for the analyses.

The results obtained were as follows:

	A	B
Water .. .. .	3.75%	5.89%
Ash .. .. .	2.20%	2.26%
Protein .. .. .	11.57%	9.27%
Ether-soluble extractives		
(fat <i>et cetera</i> ) .. .. .	10.55%	10.09%
Carbohydrates <i>et cetera</i> .. .. .	71.93%	72.49%

The protein was estimated in the conventional manner as percentage nitrogen multiplied by 6.25, "A" being the mean of six closely agreeing estimations and "B" of four estimations. The ether-soluble extractives, which are mostly fat, were estimated by first hydrolysing the starch in order to set free the fat globules. This gives a much higher figure than straight extraction with ether, which is the usual method.

The carbohydrates include the fibre, cellulose *et cetera*, of which there is a good deal in these biscuits. As these are not digested in the alimentary tract, the figure cannot be used for estimation of caloric value.

The manufacturers claim that vitamins A and D are present in active condition and that the vitamin B of the whole wheat is present in its entirety. Considering the method of manufacture, it is unlikely that vitamin A

will be present in any appreciable amount in the finished biscuits, and its presence is not shown by the antimony trichloride test. Wheat contains little vitamin D, but this should not be destroyed. The B vitamins are probably little altered. The biscuits are well made, very palatable, and afford a useful means of giving whole wheat with its roughage. They can be recommended with confidence.

#### "TENAX."

"TENAX" is a "germicidal toilet soap" manufactured by Du Menier Laboratories, Beaconsfield Street, Alexandria, New South Wales. The active principle of the soap is ti-trol, the oil of the tea tree, *Melaleuca alternifolia*. This oil has been mentioned in the editorial columns of this journal, and it has been described as non-poisonous and practically non-irritant. An article dealing with the germicidal properties of this oil will be found in THE MEDICAL JOURNAL OF AUSTRALIA of March 29, 1930. Up till the present time melaleuca oil has been sold to members of the medical and dental professions only. "Tenax" soap is now offered to the general public.

Samples of the soap have been submitted to a careful investigation by our analyst. He carried out a series of investigations with a twenty-four hour broth culture of *Bacillus typhosus*. The results are shown in the accompanying tables. Emulsions were prepared by shaking the required amount of soap in the necessary amount of water so that a frothing emulsion was obtained.

Dilutions of "Tenax"	Time in Minutes.			
	2½	5	7½	10
1/200 .....	+	+	+	+
1/100 .....	+	+	+	+
1/50 .....	+	+	+	+
1/25 .....	+	+	+	—
1/20 .....	+	+	—	—
1/10 .....	—	—	—	—

Dilutions of Carbolic Acid.	Time in Minutes.			
	2½	5	7½	10
1/100 .....	—	—	—	—
1/120 .....	+	—	—	—
1/130 .....	+	+	—	—

Growth = +. No growth = —.

According to these figures, a 5% emulsion of "Tenax" kills *Bacillus typhosus* in seven and a half minutes, and a 10% emulsion killed the bacilli in two and a half minutes. Further tests showed that a 10% emulsion killed *Bacillus typhosus* in thirty seconds. Our analyst did not pursue the matter further, but expresses the opinion that it is probable that "Tenax" kills the bacilli in less than thirty seconds in a 10% emulsion. It is claimed by competent observers that a lather of soap on the hands represents a strength of soap of from 15% to 30%. We may thus conclude that "Tenax" is a satisfactory germicidal soap which may be recommended with confidence.

# The Medical Journal of Australia

SATURDAY, APRIL 23, 1932.

All articles submitted for publication in this journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations and not to underline either words or phrases.

References to articles and books should be carefully checked. In a reference the following information should be given without abbreviation: Initials of author, surname of author, full title of article, name of journal, volume, full date (month, day and year), number of the first page of the article. If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors who are not accustomed to preparing drawings or photographic prints for reproduction, are invited to seek the advice of the Editor.

## RESEARCH AND PUBLICATION.

If the prophet of olden times who exclaimed in his weariness that of making of many books there was no end, had lived at the present day, he would have been appalled. In his time the making of books was a laborious process, typesetting and printing were still in the womb of the distant future, and he, poor man, no doubt spoke from personal experience. At the present day he would probably have been more insistent in his plaint that much study gave a weariness to the flesh. The prophet's first remark is often applied to medicine, and the statement that there are too many medical journals is a commonplace. Any of the readers of this journal who happened to be in its office when the overseas mail brings journals from different parts of the world, would probably endorse the commonplace statement. But the statement should be examined, for mere repetition does not make it true.

The functions of medical journals are many. Their highest function is undoubtedly the dissemination of knowledge, the results of research by individual workers or groups of workers. The new facts need not necessarily be epoch-making or concerned with a large field. They must, however, be

broadcasted so that other workers may use them. Another function of medical journals is to serve as a medium of instruction. The branches of medicine are many, and the followers of each branch look for information, not only on new work, but on older work that will help them with their everyday problems. A third function of a journal is to act as a binding link for members of an organization or scientific body. When journals are examined from these points of view and when it is remembered that the method of presentation of facts likely to make an appeal is almost as varied as the temperament of medical graduates, it would probably be correct to say that most medical journals have a definite sphere of usefulness. If this be granted, the next point to be considered is whether the financial support given to medical journals is adequate, for printing unfortunately costs money. Articles published in journals may roughly be divided into two groups: the purely scientific and what has been called the "bread and butter" variety. It has always appeared that the term "bread and butter" applied to articles dealing with conditions of everyday practice has been peculiarly well chosen. A man who lives entirely on bread and butter, sooner or later suffers from serious deficiency disease that will eventually bring about his permanent undoing; but this is a digression. Since the purely scientific article is essential, provision must be made for its publication.

Certain journals in other parts of the world enjoy the benefits of endowment, and their managers and editors have no financial worries. THE MEDICAL JOURNAL OF AUSTRALIA has no endowment. At the same time those in charge of it are firm in their belief that results of Australian research should be published in Australia; and as far as possible they have put their belief into practice. Many contributions to this journal call for illustration, and the illustrations are sometimes the most important part of the contribution. The journal bears as much of the expense as possible, and authors are called upon to pay what is necessary in excess of a certain amount. Many of those who forward contributions of the highest order, are younger graduates who can ill afford the necessary money. The value of the publication, either by curtailment of illustrations

or by their elimination, is thus considerably diminished. What has been written of illustrations applies in large measure to tables setting out details of research. Since results of research are useless unless people know about them, it may justly be claimed that publication of research has a definite call on endowment funds. Sometimes endowment funds are small, sometimes they are already earmarked for other work, sometimes the research has not been fathered by a research organization. There is thus need in Australia for a fund to enable authors to publish their work. This need has been evident for a long time. Too often scientific bodies are content to wait until some benevolent person presents them with an endowment. Endowments should be solicited from people who are known to be in a position to establish them. Medical practitioners, if they would, could establish such a fund in a few years. Would that more graduates would provide endowments for medical institutions. When a man dies, he is described as being "worth" so much. His true worth is reflected in his ideals and aspirations. A man who is in deadly earnest about the welfare of humanity and about the acquisition of knowledge to further that welfare, will scarcely forsake his ideals when he makes his final distribution.

### Current Comment.

#### THE USE OF SERUM IN ACUTE APPENDICITIS.

AN important discussion was recently held at a congress of German surgeons on the use of serum in acute appendicitis.<sup>1</sup> Carl Henschen, Director of the University Clinic in Basle, Switzerland, discussed the value of anti-gas gangrene serum in perforated gangrenous appendicitis. He holds that, as it is impossible at the time of operation to isolate a single gas organism, even if one alone is the principal offender, a mixed serum immunizing against the four well known gas organisms should be used. The patient is given an intravenous or an intramuscular injection of saline solution containing ten to twenty or forty cubic centimetres of serum, according to his age and to the severity of the disease. In severe infections 100 cubic centimetres of serum are given intravenously in 500 cubic centimetres of saline solution. For these large amounts adrenalin is added to the solution injected, and care is taken to administer the mixture very slowly, one to one and a half hours being

required. No untoward effects, except an occasional serum rash, have been observed. Henschen is impressed with the value of serum in severe infections, and notes the steady fall of temperature and the diminished frequency of residual abscess formation. The heavy dose of polyvalent serum is comparable with the large amounts required in tetanus.

There are probably many organisms involved in the production of peritonitis following perforation of the appendix; the streptococcus and the *Bacillus coli* play an important part, but the rôle of the anaerobes is considerable, and in gangrenous appendicitis anaerobes are potent invaders of the peritoneal cavity, producing an intense toxæmia. It remains to be proved whether a mixed serum containing anti-streptococcal and anti-*Bacillus coli* as well as anti-gas serum would increase the patient's immunity. Henschen suggests the use of serum from patients recently convalescing from severe appendicitis and peritonitis. Further, some workers, such as Weinberg, consider that the anti-gas gangrene serum acts not so much through any specific properties it may possess, but rather in virtue of certain para-specific components contained within it.

Hanschen discusses at length the death rate from appendicitis, which, as is well known, has not diminished in recent years, despite early diagnosis and standard operative treatment. Improvement in the mortality figures has been shown during the past two years as the result of the free use of serum and also, in older patients, of the administration of "Percaïne" as a spinal anæsthetic and of "Novocain" infiltration of the abdominal wall. "Percaïne" is also poured into the abdominal cavity at the end of the operation, thus permitting, owing to the absence of pain for many hours, free ventilation of the lungs and improved heart action. These refinements of treatment, obviously indicated in desperate cases only, do not in any way obviate the necessity for early operation in appendicitis. They are supplementary to the recognized standard method of early surgical intervention.

Sturm, of Brandenburg, in an address at the above-mentioned congress of German surgeons, reported a series of cases of peritonitis due to *Bacillus coli* treated with serum. The type of serum used is not specified, but presumably it was a mixed serum, that is, one obtained from horses inoculated against a variety of organisms found in perforative peritonitis. Twenty-five patients, aged from three to seventy-seven, were treated. Fourteen of these had a diffuse peritonitis; in the others the condition was limited to the pelvis or other local areas. There were two deaths, of two patients aged seventy-five and seventy-seven years respectively.

The serum is administered intravenously and intramuscularly on the day following operation if there is any difficulty in obtaining a bowel action. As a rule, 100 cubic centimetres of serum are given over three days. The usual routine pituitrin injection and enemata are, of course, used. Sturm quoted one case in which, following the removal of a gan-

<sup>1</sup> Archiv für Klinische Chirurgie.



grenous appendix without drainage, acute peritonitis due to a residual mesentery stump, supervened on the sixth day. The abdomen was reopened and drained and 150 cubic centimetres of serum were given over three days. The patient recovered and left hospital on the twelfth day with a granulating wound. This type of secondary peritonitis is usually fatal.

These reports raise the question as to whether a more extensive use of serum is not worth a trial in this country. In one of the metropolitan hospitals in Australia surgeons have recently been using anti-gas gangrene serum in all cases of severe perforative peritonitis and although, in the absence of proper controls, it is impossible to assess the value of the procedure, the impression has been gained that it is a useful addition to treatment. The enthusiasm of medical practitioners for serum has perhaps been blunted in recent years, and there is a tendency to be influenced by disappointments in serum therapy in other surgical conditions. Perhaps failure in the past has been in part due to inadequate dosage. The employment of anti-gas gangrene serum in severe cases of small bowel obstruction is now a well established practice, and it seems just as rational to use it in severe perforative peritonitis. In diffuse peritonitis the two important lethal factors seem to be, first, the intense intoxication due to the foul infected fluid in the peritoneal cavity, and second, the paralytic distension which follows. The first important surgical necessity is the prevention of further infection, that is, removal of the perforated gangrenous appendix or oversewing of an ulcer. The second is the removal of the fluid in the abdomen. This is not always completed on the operating table, for obvious reasons, hence the necessity of a drain tube, that rather old-fashioned friend which in these modern days is receiving a lot of merciless criticism. Serum should be used as a means of combating toxæmia in addition to the usual free administration of water and salt.

#### ARTIFICIAL PNEUMOTHORAX AND ACUTE LOBAR PNEUMONIA.

MEDICAL students of a decade or two ago were taught that the treatment of a patient suffering from acute lobar pneumonia consisted principally in careful nursing. Since then other forms of treatment have been recommended. The isolation of different types of pneumococci was followed by the introduction of serum treatment, and this yielded satisfactory results in certain forms of the disease. A year or two ago, as a result of promulgation of the view that pneumonia is essentially an atelectasis, it was suggested that the bronchoscope might be used to remove some of the exudate from affected bronchi. It has even been suggested that inhalations of carbon dioxide would assist in the ventilation of the respiratory passages. The latest treatment to be suggested is the use of artificial pneumothorax. This has been held by J. J. Coghlan to exert a favourable influence on the progress of the disease.

Coghlan<sup>1</sup> believes that when an artificial pneumothorax is induced on the affected side it has three advantages: (i) It separates the inflamed pleural surfaces, relieves pain and allows easy respiration. (ii) It puts the inflamed lung at rest. (iii) It limits the flow of blood through the pneumonic lung, thereby diminishing anoxæmia and interfering with the passage of toxins into the general circulation. He gives details of six cases in which the method was used. The patient's ages ranged from nine to fifty-five years. Among the noticeable features were the intense hyperæsthesia of the pleura and the wide and irregular variation of the intrapleural pressure as measured on the manometer. The manometer could not be used to check the filling. The clinical improvement in every instance was immediate—there was "initiated a series of events almost indistinguishable from the crisis which normally occurs". This improvement was only temporary; it persisted as long as the air remained in the pleural cavity. The time taken for absorption of the air to occur was found to be a matter of hours only, and after this the pneumonic process became established at its original level. One patient died; he was fifty-five years of age. Damage to the myocardium was diagnosed before pneumothorax was induced. One large amount of air was introduced and signs of failure of the right ventricle appeared. Although Coghlan attributes this death to an error of judgement in a difficult situation and lack of knowledge of technique owing to inexperience, it is to be noted that this patient was the oldest in the series. In pneumonia the myocardium is being acted on by toxins from the pneumonic process, and the strain thrown on it by production of a pneumothorax will not be inconsiderable. This will be the chief danger of this method of treatment. Coghlan meets the possible objection that the crises are merely accidental coincidences by pointing out that in one instance a crisis was produced on the third day, air was absorbed and after a recrudescence of symptoms a natural crisis took place seven days later.

This method of treatment, from the theoretical point of view, is sound—an inflamed viscus should, if possible, be placed at rest. Coghlan offers no evidence as to the extent of collapse likely to occur in a pneumonic lobe. "Red hepatization" makes a lung nearly solid and collapse could not be extensive; separation of the inflamed pleural surfaces would, however, occur and relief from pain be almost immediate. Other points remain to be considered, such as the outpouring of toxins in relation to the collapse, the dangers other than cardiac collapse; this must be left for another occasion. Coghlan has given a useful lead, but it is a lead that must be followed with caution. Limitations of space prevent a description of his suggested procedure; but emphasis must be laid on his statement that lobar pneumonia is not the disease on which a knowledge of the technique of induction of artificial pneumothorax should be gained.

<sup>1</sup> *The Lancet*, January 2, 1932.

## Abstracts from Current Medical Literature.

### OPHTHALMOLOGY.

#### The Gonin Operation.

M. J. SCHOENBERG (*Archives of Ophthalmology*, November, 1931) gives his experience with sixty patients suffering from retinal detachment. An epinephrine or ephedrine pack is sometimes necessary to give maximum dilatation of the pupil so that the retinal tear may be found. Slit lamp examination of the vitreous gives more information than the usual method. The cases may be divided into operable, non-operable and "doubtful". It is not advisable to instil cocaine, as it injures the cornea and makes ophthalmoscopy difficult during operation. It is useful to examine the fundus immediately before and after the incision is made and after ignition. The complications during and after operation are hemorrhage in the vitreous, collapse of the eyeball, fistula and iritis. The author concludes that in selected cases the results are surprisingly good. The treatment will remain on probation for a considerable time. Two things are important, the selection of the proper cases and the carrying out of the proper technique.

#### Optic Atrophy in Tabes Dorsalis.

E. WEINBERG (*Deutsche Medizinische Wochenschrift*, January 29, 1932) discusses the treatment of optic atrophy in tabetic patients. He remarks that as optic atrophy is one of the early symptoms of tabes, such patients are frequently seen first by the oculist. Optic atrophy may be the only symptom for a considerable period before ataxia and other symptoms appear. He recommends the use of "Salvarsan" and bismuth preparations. In some instances he has used sulphur preparations to induce pyrexia to 39° C. with equally good results. He considers that this mild fever gives better results than that following malarial injections. In all cases the patients are warned that the sight may not improve and that in any case permanent cure of the tabetic state cannot be expected. From an investigation of the neurological cases of his clinic he is convinced that the incidence of optic atrophy is not decreasing within recent years.

#### The Blue Arcs of the Retina.

B. FRIEDMAN (*Archives of Ophthalmology*, November, 1931) recalls Purkinje's observation in 1825 that if an observer in a dark room, preferably with one eye closed, looks a little to the temporal side of a circle or band of light, he will see, as well as the light, two curved bands of bright blue beginning at the light and arching across the visual field to the region of the blind spot. At times the enclosed elliptical area is also filled with a faint blue haze. The blue arcs can be seen at night, when looking

across the street one focuses on a brightly lighted window. The coloured traffic signals against a dark background may serve as stimuli or sometimes the border of the full moon or other various sources of light. Snell found the average duration of the arcs to be eight-tenths of a second, but it could be prolonged to eight seconds by fixing the eye on a moving point and thereby causing the stimulus to fall on fresh receptors. Many explanations have been suggested for the phenomenon, one of the latest being that the excited nerve fibres are actually luminous from physical light which they emit, and that the underlying receptors furnish the arcs through this stimulus. They may be elicited by any colour, but red is the best. The arcs themselves are always blue. Another explanation offered is the theory of secondary electrical stimulation affecting most probably the ganglion cells and thence in reversed direction the rods and cones.

#### A New Automatic Trephine.

A. S. L. D. AND M. I. GREEN (*Archives of Ophthalmology*, November, 1931) describe a mechanically driven trephine for operation in glaucoma. The speed with which the blade revolves reduces pressure to a negligible minimum and prevents wobbling. Numerous experiments were made before the ideal shape, speed and weight were decided. The tip of the forefinger rests lightly on the trigger, which on gentle pressure releases the rotating mechanism. The blades are in two sizes, 1.25 millimetres and 1.75 millimetres. There must be no traction of the iris. An iridotomy is made on the ballooning iris.

#### Oligodendroglia and Myelinated Nerve Fibres.

In a recent paper entitled "Extensive Medullated Nerve Fibres Associated with Choroiditis", M. L. BERLINER (*Archives of Ophthalmology*, November, 1931) suggested that the sporadic and anomalous appearance of medullated nerve fibres in the human retina might be due to the abnormal presence of one of the types of glial cells, namely, the oligodendroglia, which is regarded as possessing the function of the secretion of myelin. To determine this question the author has carried out an investigation on the retina of the rabbit. In this animal there is no *lamina cribrosa* and the opaque medullated nerve fibres are seen emerging *en masse* from the pit on the nerve head. They form a thick white mound over the margin of the excavation, particularly on the lateral sides, from which they extend outwards for a considerable distance to the periphery. In sagittal section rows of oligodendroglia are seen, being most in evidence where the myelinization is heaviest, that is, near the disk laterally. As the myelinated fibres thin out, the nuclei of the oligodendroglia become scarce, and where the fibres are non-medullated, they cease. In sections of the retina stained by the method of Rio Hortega, the

peculiar behaviour of the prolongations of the oligodendroglia are clearly seen. They appear with a lamellar or ribbon-like flatness and are wrapped around the myelinated fibres. The author considers that his former assumption that the presence of myelinated fibres in the retina is correlated with the occurrence of oligodendroglia is essentially correct.

#### Gonococcal Conjunctivitis.

W. JADASSOHN AND K. REHSTEINER (*Klinische Wochenschrift*, October 10, 1931) discuss the relationship between gonococcal infections of the genitalia and the conjunctivæ. Omitting *ophthalmia neonatorum*, the frequency of gonococcal conjunctivitis in children and adults is approximately two to four per million. Over 50% of the cases occur in children under fifteen years of age, and the majority are noted in girls because of the frequency of vulvo-vaginitis. No evidence of genital infection was noted in a fifth of the series. The incidence of conjunctivitis is most marked in young children and gradually decreases up to the thirty-second year. No cases were observed in persons between thirty-two and fifty; a marked increase then was noted in older people. The sensibility of the connective tissues to gonococcal infection therefore is in direct relationship with age, being most pronounced in childhood, decreasing to zero up to fifty years, when it recurs. This age disposition therefore explains the relative infrequency of gonococcal conjunctivitis in general.

#### Retinitis Pigmentosa.

F. WIRAUT (*Deutsche Medizinische Wochenschrift*, October 9, 1931), in discussing the relative preponderance of cases of *retinitis pigmentosa* in males as compared with females, suggests that possibly this lower incidence is connected with differences in the hormonal content of the blood stream in the two sexes. In view of this theory he has given the ovarian hormone, "Menformon", twice daily in doses of 100 mouse units by the subcutaneous route. The details of five cases are given. One patient showed marked improvement, the condition of two was considerably and of one slightly improved, while that of one was unaltered.

#### Exophthalmos in Infantile Scurvy.

J. H. DUNNINGTON (*Archives of Ophthalmology*, November, 1931) reviews the literature of exophthalmos in infantile scurvy from the first mention of the condition by Moeller in 1862 to the publication of Barlow's paper in 1883 and the writings of more recent observers. It has been clearly proved that the exophthalmos is due to hemorrhage between the orbital plate of the frontal bone and the periosteum. The direction of the proptosis is constant, the eye being pushed forwards, downwards and outwards. The hemorrhage is supposed to be due to a defect in the cement substance of the endothelial cells of

the blood vessels produced by a lack of vitamin C in the food. In America 40 instances of protrusion were noted in 379 cases. Still reported six in 64 cases. The proptosis appears suddenly, but with antiscorbutic treatment absorption takes place in times varying from a month to four days. The exophthalmos varies in degree of severity and may be so intense as to cause corneal ulceration. This complication occurs usually in children less than a year old.

## OTO-RHINO-LARYNGOLOGY.

### Simulated Deafness.

B. M. BECKER (*The Laryngoscope*, September, 1931) describes a method of exposure of simulated deafness by bone conduction tests. When a current of air is directed steadily and forcefully against either tympanic membrane, no extraneous sound can reach the cochlea of that ear either through air or bone conduction. The ear is temporarily rendered deaf to all sound save that which is produced by the air current. A patient presents himself for examination, complaining of total loss of hearing in the right ear. On examination no abnormality is discoverable in the meatus or drum, and to all the hearing tests by air conduction he returns a negative reply. A vibrating tuning fork placed on the skull gives a localization to the left ear as a result. The patient is suffering either from a grave lesion of the right perceptive mechanism or is simulating that condition. The tube is placed in his right ear and a current of air is directed against his drum, while a 256 or 128 vibrating fork is pressed against his right mastoid. The true sufferer from perceptive deafness will indicate that he hears the sound, but he cannot determine on what side, or in some cases he will localize it to the left. The malingering, although now he is on a par with the true sufferer, his right cochlea being rendered functionless by the air current against the drum, will either refer the sound to the left or deny hearing any sound, the reason for his denial being the fear of exposure. Not knowing that the fork on the right mastoid can be perceived in the opposite labyrinth, he may regard an admission of hearing as an admission of guilt. With the tube still in the right ear the vibrating fork is now transferred to the left mastoid, when both will unhesitatingly refer the sound to the left ear. Now the tube is placed in the left ear and the same procedure followed. When the fork is over either mastoid the true sufferer from a perceptive lesion will return a negative reply, for the reason that the right cochlea is functionless by virtue of the lesion, and the left is temporarily made functionless by the air currents, so that he is rendered totally deaf binaurally. The malingering, on the other hand, under the same conditions of testing, will

refer the fork sound, either when placed on the right or left mastoid, to the left ear. For, hearing the sound and not knowing that his left ear is made deaf, he will return a positive reply. In his answers to the last procedure lies the crux of the test, which spells his undoing.

### Prevention of Acute Surgical Mastoiditis.

ARTHUR WAGERS (*The Laryngoscope*, September, 1931) discusses the prevention of acute surgical mastoiditis and infers that there are cases of acute mastoiditis which, if accorded sufficiently early and proper attention, can be cured without resort to operation. He describes the abortive treatment for any case of acute middle ear infection which is seen sufficiently early, and details the daily treatment to be carried out when there is a completely developed middle ear infection and drainage provided. In considering the patient seen later or after perhaps three or four weeks of middle ear suppuration without adequate drainage, or the patient who is already developing symptoms of acute mastoiditis except for drooping of the posterior superior wall of the canal, it is usually safe to make an attempt at abortion of the mastoiditis. Treatment for this stage of the infection is also described. The author concludes by stressing the point that no fixed routine as to the time for operating on the mastoid can be followed, and that the rational thing to do is to keep the acute middle ear condition under constant observation and to meet the extension to the mastoid area if and when it occurs.

### Tonsillectomy in Childhood.

J. A. KEEN (*The Journal of Laryngology and Otology*, January, 1932), in an article dealing with the medical and surgical complications of tonsillectomy in childhood gives the following summary. The case records of 9,344 children who underwent tonsillectomy at a school clinic, are studied and all the chief medical and surgical complications, excluding hæmorrhage, are analysed. Many illnesses which appear to be complications, are really intercurrent infections which arise independently during the period of convalescence or which already existed in a prodromal stage at the time of operation. This applies particularly to pulmonary complications, of which there were twenty-three in this series; eight are described in detail. In the "guillotine" method of tonsillectomy, anaesthesia is short and the operation is rapidly carried out with the head of the patient in the extended position. Therefore, it is argued, the two important factors in the aetiology of pulmonary complications, namely, ether irritation of the bronchial mucous membrane and the inhalation of blood or septic material, can, for practical purposes, be excluded. Toxæmia is a direct complication and results from an extension of the bacterial infection of the operation wounds. When the

body defences break down completely, generalized sepsis or septicæmia may result. Five cases of post-operative septicæmia, with one death, are described and the therapeutic use of "Collosol argenti" is discussed. Acute specific fevers sometimes complicate the convalescence and can generally be explained as intercurrent infections not directly connected with the operation. Diphtheria is particularly serious. Three cases are described, in all of which the diphtheritic infection was laryngeal; two of the patients died. In this series there were eighteen scarlatiniform rashes after operation and five cases in which a diagnosis of scarlet fever was made elsewhere. Septic rashes of a scarlatiniform type after tonsillectomy are not very uncommon, and they usually appear on the second or third day after operation. The diagnosis of scarlet fever is never justified under these circumstances. Acute otitis media is a very definite complication of the operation. There are sixty cases in this series, or 0.6%. The prevention and treatment of ear-ache after tonsillectomy are discussed. There were six cases of post-operative mastoid abscess and intracranial infection. These are described in detail and the pathology of fulminating meningitis following acute otitis media is considered. Lastly, a case of glottic spasm requiring laryngotomy, and a case of subcutaneous emphysema complicating the tonsil and adenoid operation are described.

### The Production of Voice and Speech following Total Laryngectomy.

W. WALLACE MORRISON (*Archives of Otolaryngology*, October, 1931), in a paper dealing with the production of voice and speech following total laryngectomy, states that laryngeal prostheses or artificial larynges have so many disadvantages that their use should be restricted to the patient who cannot learn to produce any type of pseudovoice. Several types of mechanism for the production of a pseudovoice are explained. One of the most perfect forms of the pseudovoice is the oesophageal type, in which the vicarious glottis lies at the oesophageal mouth of Killian, and the vicarious air chamber is formed within the lumen of the oesophagus, particularly in its cervical and upper thoracic portions. Here the mechanism of pseudovoice production is strikingly like that of normal speech. In some cases the cardiac end of the stomach, with the stomach air bubble, may be the vicarious air chamber, which furnishes a stream of air for a pseudoglottis. A fairly definite system of therapy directed towards teaching the patient to produce one or other of the types of pseudovoice has been elaborated. Having in view the fact that almost all patients subjected to laryngectomy can learn a pseudovoice, the laryngeal surgeon should, if it is possible, so conduct the operation as to favour the production of the pseudovoice at least on anatomical and physiological grounds.



## British Medical Association News.

### ANNUAL MEETING.

THE ANNUAL MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the Robert H. Todd Assembly Hall, British Medical Association House, on March 31, 1932, Dr. GEORGE BELL, the President, in the chair.

### ANNUAL REPORT OF COUNCIL.

The Honorary Secretary presented the annual report of the Council and moved that it be received. The motion was seconded by Dr. Kenneth Smith and carried. The report is as follows:

The Council presents the following report on the work of the Branch for the year ended March 31, 1932.

#### Membership.

The membership of the Branch is now 1,624, as compared with 1,684 at the date of the last report, showing a net decrease of 60.

The additions have included elections and resurreptions of membership, 52; removals into the area of the Branch, 20. The losses have included resignations, 11; removals out of the area of the Branch, 38; default in payment of subscription, 64; deaths, 19.

The losses by death have been: Dr. John Morgan, Dr. P. M. Reid, Dr. F. J. R. Cade, Dr. W. Sproule, Dr. Richard Perkins, Dr. Jessie Lang, Dr. J. L. M. McCreadie, Dr. C. V. Single, Dr. J. H. Macarthur, Dr. F. C. Stevenson, Dr. E. Tudor Jones, Dr. R. Gordon Craig, Dr. H. J. McGrigor, Dr. W. E. Warren, Dr. F. A. Bennet, Dr. W. Broad, Dr. R. H. Todd, Dr. A. J. Bracken, Dr. W. A. Kerr.

#### Dr. Robert Henry Todd.

The Branch has suffered by the passing of Dr. Robert Henry Todd, who filled the position of Honorary Secretary for twenty-three years.

A special meeting was held in the Assembly Hall on Sunday, February 21, 1932, to pay homage to his memory. Tributes were paid by Dr. George Bell, President of the Branch, Mr. C. H. Fagge, F.R.C.S., Official Delegate of the British Medical Association, Dr. J. Newman Morris, Chairman of the Council of the Victorian Branch, Dr. E. S. Meyers, President of the Queensland Branch, Dr. C. H. Shearman, on behalf of the Western Australian Branch, Dr. E. Sydney Morris, on behalf of the Tasmanian Branch, Dr. W. N. Robertson, for the Australasian Medical Publishing Company, Limited, Dr. F. P. Sandes, New South Wales Branch, and Sir Henry Newland, C.B.E., D.S.O., Chairman of the Federal Committee of the British Medical Association in Australia, who dedicated the Robert H. Todd Assembly Hall in commemoration of the great services rendered by the late Dr. Todd to the Association.

A bronze tablet has been placed in the Assembly Hall bearing the following inscription:

This Hall is dedicated to the memory of Robert Henry Todd, 1859-1931, Honorary Secretary of this Branch of the British Medical Association from 1908 to 1931.

#### Meetings.

Twelve ordinary meetings of the Branch (including the annual general meeting), six extraordinary meetings and seven clinical meetings were held. The average attendance was 52. Seven of the ordinary meetings, as follows, were held in conjunction with meetings of sections, namely: April 30, with the Section of Neurology and Psychiatry; May 28, with the Section of Radiology, the Section of Surgery and the Section of Orthopædics; June 25, with the Section of Pædiatrics, the Section of Medicine and the Section of Neurology and Psychiatry; July 30, with the Section of Medicine and the Section of Surgery. August

27, with the Section of Orthopædics, the Section of Medicine and the Section of Neurology and Psychiatry; September 24, with the Section of Pathology and Bacteriology, the Section of Oto-Rhino-Laryngology and the Section of Neurology and Psychiatry; October 29, with the Section of Pædiatrics and the Section of Orthopædics. The meeting of February 21, 1932, was convened at the request of the Infantile Paralysis Committee of New South Wales, when a film prepared by the Commonwealth Government was shown, illustrating the early diagnosis and treatment of anterior poliomyelitis.

The clinical meetings were held at the School of Public Health and Tropical Medicine, the Royal Prince Alfred Hospital, the Royal North Shore Hospital, the Sydney Hospital, the Royal Alexandra Hospital for Children, Saint Vincent's Hospital, the Royal Hospital for Women, and the Renwick Hospital for Infants.

The business of the meetings during the year included twenty-one papers and addresses, numerous reports of cases, exhibits, demonstrations, lantern lectures and the showing of cinema films.

In accordance with the usual practice, the Sydney University graduates (1931) in medicine were invited to attend the ordinary meeting of December 10.

At the extraordinary meeting of March 19, By-Laws 9 and 17 were amended, a subclause was added to By-Law 25 and a new By-Law governing ethical matters and procedure therein was made. The extraordinary meeting of April 30 and the confirmatory meeting of May 28 dealt with an amendment of Article 60; the extraordinary meeting of October 30 was convened to consider the matter of a proposed contribution scheme for the metropolitan hospitals, and the resolutions passed at that meeting were confirmed at the extraordinary meeting of November 26. The extraordinary meeting of February 21, 1932, took the form of a memorial meeting to pay homage to the late Dr. R. H. Todd.

#### Representatives.

The Branch was represented as follows:

- (a) *Council of the British Medical Association* (1931-1932): Professor R. J. A. Berry.
- (b) *Representative Body* (1931-1932): The late Dr. R. H. Todd.
- (c) *Federal Committee* (1931): Dr. J. A. Dick, C.M.G., the late Dr. R. H. Todd. (1932): Dr. J. A. Dick, C.M.G., Dr. C. H. E. Lawes.
- (d) *Australasian Medical Publishing Company, Limited*: Dr. George Armstrong, Dr. T. W. Lipscomb, Dr. F. P. Sandes.
- (e) *Council of the Bush Nursing Association* (1931-1932): Dr. George Bell.
- (f) *Council of the Royal Society for the Welfare of Mothers and Babies*: Dr. R. B. Wade and Dr. A. J. Gibson.
- (g) *Board of Control of the Campaign against Tuberculosis*: Dr. S. A. Smith.

#### Council.

(a) The attendance of the members of the Council and of the standing committees was as set out in the accompanying table.

(b) *Honorary Treasurer*.—Dr. W. H. Crago retired from the Honorary Treasurership of the Branch in March, 1931. For forty-two consecutive years Dr. Crago has been a member of the Council and an officer of the Association. Except during his terms of office as President-Elect (1893) and President (1894), and Honorary Secretary (1907), Dr. Crago has been the Honorary Treasurer of the Branch. In recognition of the great services he has rendered to the Branch, the Council has named the Council Room the William Henry Crago Council Chamber. Dr. J. E. V. Barling succeeded Dr. Crago as Honorary Treasurer.

(c) *Honorary Secretary*.—Dr. C. H. E. Lawes was appointed Honorary Secretary in succession to the late Dr. R. H. Todd, who retired from the honorary secretarieship in March, 1931.

(d) *President-Elect*.—The vacancy in the position of President-Elect caused by the death of Dr. R. H. Todd was filled by the appointment of Dr. A. J. Gibson.

## ATTENDANCES AT COUNCIL AND STANDING COMMITTEE MEETINGS.

	Council.	Committees.					
		Executive and Finance.	Organization and Science.	Medical Politics.	Hospitals.	Ethics.	Post-Graduate Work.
DR. J. E. V. BARLING (Hon. Treasurer and Premises Attorney) .. . . .	9	14	1	1	—	2	—
DR. GEORGE BELL (President) ..	9	15	6	11	9	8	3
DR. C. B. BLACKBURN .. . . .	6	—	—	—	—	8	—
DR. A. J. COLLINS .. . . .	9	—	5	—	7	—	—
DR. W. H. CRAGO .. . . .	8	12	—	—	—	—	—
DR. F. BROWN CRAIG .. . . .	7	15	—	—	—	—	—
DR. A. M. DAVIDSON .. . . .	9	15	—	13	—	—	—
DR. LINDSAY DEY .. . . .	8	—	—	12	—	—	—
DR. J. A. DICK (Hon. Librarian)	7	11	—	12	—	—	—
DR. L. W. DUNLOP .. . . .	9	—	—	—	7	7	—
DR. A. J. GIBSON [President-Elect (appointed January 5, 1932) and Hon. Medical Secretary] .. . . .	9	3	4	—	9	2	3
DR. A. W. HOLMES & COURT ..	7	—	4	—	—	9	—
DR. C. H. E. LAWES (Hon. Secretary) .. . . .	7	14	3	11	4	3	—
DR. T. W. LIPSCOMB .. . . .	8	11	—	12	—	—	—
DR. R. J. MILLARD .. . . .	6	—	—	—	—	6	—
DR. A. A. PALMER .. . . .	7	—	—	—	—	9	—
DR. KENNETH SMITH .. . . .	9	14	6	10	—	—	—
DR. S. A. SMITH [Past-President (appointed July 7, 1931)]	1	3	—	—	—	—	—
DR. R. H. TODD <sup>1</sup> (President-Elect) (died December 14, 1931) .. . . .	1	3	1	1	2	—	—
DR. R. B. WADE .. . . .	7	12	—	—	9	—	—
Meetings held .. . . .	9	15	6	13	10	10	
							DR. W. EVANS .. . . . 2
							DR. W. W. INGRAM .. . . . 3
							DR. E. H. M. STEPHEN .. . . . 3
							DR. R. A. MONEY .. . . . 1
							DR. A. S. WALKER .. . . . 2
							Meetings held .. . . . 3

<sup>1</sup> Absent on leave, April to November, 1931.

(e) The representatives of the Local Associations of Members, appointed on the invitation of the Council to attend the regular quarterly meetings of the Council were as follows: Dr. A. T. Roberts (Central Northern), Dr. J. M. Alcorn (Central Southern), Dr. C. W. Whiting (Central Western), Dr. T. E. Parker (Canterbury-Bankstown), Dr. L. G. Tait (City), Dr. Hugh Hunter (Eastern Suburbs), Dr. W. F. Simmons (Illawarra Suburbs), Dr. F. S. Stuckey (Northern District), Dr. Ossian Robertson (Warringah District), Dr. Brooke Moore (Western), Dr. W. M. A. Fletcher (Western Suburbs).

## Library.

Dr. J. A. Dick was again appointed to the position of Honorary Librarian. The number of members using the library has greatly increased. Donations of books and periodicals were received from the Australasian Medical Publishing Company, Limited, Sir Alexander MacCormick, Sir Charles Clubbe, Dr. L. Cowlshaw, Dr. E. E. Pittman, Dr. R. Flynn, Dr. J. Foreman, Dr. H. H. Bullmore, Dr.

M. Lidwill, Mrs. R. H. Todd, Miss Margaret Windeyer, and Messrs. Allen and Hanbury. A further donation of journals was made to the library of the Medical School, University of Otago, New Zealand.

A subcommittee was formed, consisting of a member from each section, under the chairmanship of the Honorary Librarian, to consider in what way the library may be made more practical and up to date; also to prepare a list of medical journals which are available in other libraries to medical practitioners for reference purposes. The cooperation of various scientific libraries has been sought with the object of preventing the overlapping that at present exists in the matter of journals taken.

## Affiliated Local Associations of Members.

Balmain District (affiliated 1913): *Chairman*, Dr. H. K. Porter; *Honorary Secretary*, Dr. Roy Croft. Membership, 17. Two meetings were held.

Border (affiliated 1908): *Honorary Secretary*, Dr. R. Affleck Robertson. Membership, 12.

Canterbury-Bankstown (formed 1930): *Chairman*, Dr. K. Byrne; *Honorary Secretary*, Dr. G. J. Cousins. Membership, 27. Thirteen meetings were held.

Central Northern (affiliated 1910): *Chairman*, Dr. C. A. F. Clark; *Honorary Secretary*, Dr. F. W. D. Collier. Membership, 72. Ten meetings were held.

Central Southern (affiliated 1909): *Honorary Secretary*, Dr. S. P. Lyttle. Membership, 30.

Central Western (affiliated 1910): *Chairman*, Dr. E. H. Friedman; *Honorary Secretary*, Dr. K. S. Macarthur Brown. Membership, 50. Four meetings were held.

City (affiliated 1913): *Chairman*, Dr. J. R. Flynn; *Honorary Secretary*, Dr. H. A. Ridler. Membership, 21. Two meetings were held.

Eastern District (affiliated 1913).

Eastern Suburbs (affiliated 1911): *Chairman*, Dr. W. J. McCristal; *Honorary Secretary*, Dr. Hugh Hunter. Membership, 84. Five meetings were held.

Illawarra Suburbs (affiliated 1913): *Chairman*, Dr. J. H. Hornbrook; *Honorary Secretary*, Dr. G. F. L. Elliott. Membership, 36. Six meetings were held.

Kuring-gai District (formed 1929): *Chairman*, Dr. D. G. Hunter; *Honorary Secretary*, Dr. F. A. E. Lawes. Membership, 51. Four meetings were held.

North-Eastern (affiliated 1913): *Chairman*, Dr. W. Cletus Smith; *Honorary Secretary*, Dr. J. R. Ryan. Membership, 37. Three meetings were held.

Northern District (affiliated 1911): *Chairman*, Dr. A. D. Barton; *Honorary Secretary*, Dr. R. J. Jackson. Membership, 63. Three meetings were held.

South-Eastern (formed 1914).

South Sydney (affiliated 1909): *Chairman*, Dr. T. K. Potts; *Honorary Secretary*, Dr. P. J. Markell. Membership, 28. Six meetings were held.

Southern District (affiliated 1909): *Chairman*, Dr. H. O. Lethbridge; *Honorary Secretary*, Dr. C. R. Sim. Membership, 53. One meeting was held.

Warringah District (formed 1929): *Chairman*, Dr. M. O. Stormon; *Honorary Secretary*, Dr. E. L. Newman. Membership, 90. Four meetings were held.

Western (affiliated 1908): *Chairman*, Dr. C. G. Adams; *Honorary Secretary*, Dr. S. R. Dawes. Membership, 75. Three meetings were held.

Western Suburbs (affiliated 1908): *Chairman*, Dr. T. Y. Nelson; *Honorary Secretary*, Dr. C. E. Vickery. Membership, 116. Six meetings were held.

#### Annual Meeting of Delegates.

The nineteenth annual meeting of delegates of the affiliated Local Associations of Members with the Council was held on October 2, 1931, in the William H. Crago Council Room, 135, Macquarie Street, Sydney. An account of the meeting appeared in THE MEDICAL JOURNAL OF AUSTRALIA of December 19, 1931, and a report of the proceedings was sent to the several local associations.

#### Sections for the Study of Special Branches of Medical Knowledge.

Genito-Urinary and Venereal Diseases (inaugurated 1928).

Hygiene and Preventive Medicine (inaugurated 1922): *Chairman*, Dr. Robert Dick; *Honorary Secretary*, Dr. A. H. Baldwin. Membership, 25. Two meetings were held.

Medical Literature and History (inaugurated 1925): *Chairman*, Professor Harvey Sutton; *Honorary Secretaries*, Dr. H. M. Moran and Dr. L. Cowlshaw. Membership, 30. Three meetings were held.

Medicine (inaugurated 1924): *Chairman*, Dr. C. Bickerton Blackburn; *Honorary Secretary*, Dr. E. H. Stokes. Membership, 34. Six meetings were held, including three in conjunction with meetings of the Branch.

Neurology and Psychiatry (inaugurated 1924): *Chairman*, Dr. A. W. Campbell; *Honorary Secretary*, Dr. J. A. L. Wallace; *Honorary Medical Secretary*, Dr. H. M. North. Membership, 44. Eight meetings were held, including four in conjunction with meetings of the Branch.

Obstetrics and Gynaecology (inaugurated 1925): *Chairman*, Dr. F. Brown Craig; *Honorary Secretary*, Dr. H. A. Ridler. Membership, 50. Four meetings were held.

Orthopaedics (inaugurated 1923): *Chairman*, Dr. J. Hoets; *Honorary Secretary*, Dr. R. V. Graham. Membership, 22. Five meetings were held, including three in conjunction with meetings of the Branch.

Oto-Rhino-Laryngology (inaugurated 1924): *Chairman*, Dr. A. B. K. Watkins; *Honorary Secretary*, Dr. Ashleigh Davy. Membership, 27. Six meetings were held, including one in conjunction with a meeting of the Branch.

Pædiatrics (inaugurated 1921): *Chairman*, Dr. L. R. Parker; *Honorary Secretaries*, Dr. F. C. Rogers and Dr. L. H. Hughes. Membership, 50. Six meetings were held, including two in conjunction with meetings of the Branch.

Pathology and Bacteriology (inaugurated 1924): *Chairman*, Dr. Oliver Latham; *Honorary Secretary*, Dr. Phyllis Anderson. Membership, 30. Four meetings were held, including one in conjunction with a meeting of the Branch.

Radiology (inaugurated 1926): *Chairman*, Dr. P. S. Parkinson; *Honorary Secretary*, Dr. A. F. Oxenham. Membership, 24. Five meetings were held, including one in conjunction with a meeting of the Branch.

Study of Cancer (inaugurated 1928).

Surgery (inaugurated 1925): *Chairman*, Dr. J. Colvin Storey; *Honorary Secretary*, Dr. C. E. Winston. Membership, 30. Three meetings were held, including two in conjunction with meetings of the Branch.

#### British Medical Association Lectures.

Lectures were arranged as follow:

Northern District Medical Association, Tamworth, September 23, 1931: Dr. F. Brown Craig, "The Importance of the Milder Puerperal Infections".

North-Eastern Medical Association, Lismore, April 11, 1931: Dr. J. Colvin Storey, "The Acute Abdomen".

Western Medical Association, Wellington, September, 1931: Dr. H. R. G. Poate, "Gall-Bladder Disease".

#### Post-Graduate Work.

It was not thought advisable to hold the annual refresher course for general practitioners this year.

Throughout the year weekly clinical demonstrations, open to all medical practitioners, free of charge, were held at the metropolitan hospitals.

Arrangements were made with the Royal Australasian College of Surgeons for Mr. C. H. Fagge, F.R.C.S., Senior Vice-President of the Royal College of Surgeons and Surgeon to Guy's Hospital, London, to lecture in Sydney during his visit to Australia. Mr. Fagge delivered three lectures on the subject of "Abdominal Emergencies"—appendicitis, gynaecological emergencies in general surgery, and intestinal obstruction. Ninety-five members attended these interesting and instructive lectures.

#### Contract Practice—Friendly Society Lodges.

The approved Common Form of Agreement, for use between medical officer and friendly society lodge, continues to work satisfactorily, and the medical service constituted by it is of the greatest value to the community.

The number of members who undertake friendly society lodge practice is 766.

A deputation from the Friendly Societies' Association met the Council in April, 1931, in relation to irregularities in the supply of medical certificates by lodge medical officers for sickness benefit. A memorandum was subsequently issued to members, pointing out the necessity for correct certification. When the present supply of certificates is exhausted, the Friendly Societies' Association will meet the Council in regard to the drawing up of a form of certificate, with butt attached, on which the medical officer can keep his record.

In October, 1931, the Friendly Societies' Association approached the Council with a request that charges for medical services under the Common Form of Agreement be reduced by 22½%. The proposal was discussed at the annual (1931) meeting of delegates of Local Associations of Members with the Council and later submitted to the medical officers of lodges through the Local Associations.

The Friendly Societies' Association was subsequently advised that no reduction of the rates for attendance could be made. The Council, however, requested medical officers of lodges to accept on their quarterly lists of members,



without remuneration, a number of unfinancial and unemployed members not exceeding 10% of the number of paying members on such quarterly lists for a period of twelve months commencing April 1, 1932.

#### Medical Treatment of Unemployed in Mining Districts.

Following representations to the Chief Secretary that medical practitioners in the mining districts who are giving free medical treatment, including the supply of drugs, to a large number of unemployed, should be recouped for out-of-pocket expenses, the Council was advised that unemployed persons in need of medical treatment may obtain the necessary attention at the nearest public hospital and, in the case of centres situated remotely from the hospital, the latter institution will make up medicine on the prescription of any medical practitioner who certifies that the person concerned is without means to travel to the hospital.

The Council was further advised that the Minister for Health regretted that there are no funds at the disposal of the Department from which any payment to the doctors concerned could be made.

#### Workers' Compensation Act, 1926-1929.

A large number of requests for advice in regard to attendance on injured workers has been received from members as well as from insurers.

The decision of the Full Court in the case of *Hutton v. Dorman, Long and Company* was one of importance to medical practitioners. It was the contention of the respondent that any treatment received at a hospital was hospital treatment within the meaning of the *Workers' Compensation Act, 1926-1929*, so that treatment which obviously was treatment of a medical character, ceased to be medical treatment within the meaning of the Act if carried out in a hospital and became hospital treatment. With this view the Court was unable to agree, and held that the treatment of the injured worker in hospital by his medical attendant was medical treatment within the meaning given to that treatment in Section 10 of the *Workers' Compensation Act*, and also that the applicant was entitled to receive from the respondent company the cost of medical treatment.

#### Hospital Policy.

Special attention has been given to the hospital policy of the Association during the year.

At an extraordinary meeting of the Association, held on October 30, 1931, to consider the matter of the systematic contribution scheme for the metropolitan hospitals the following resolutions were passed.

(1) That, with regard to the Metropolitan Hospitals Contribution Fund, the medical profession affirms its traditional principle of free treatment of the indigent sick, but insists that its interests be conserved with regard to other classes of the community by payment for services rendered, and that this principle be recognized in all contributory schemes providing hospital and medical services to the community.

(2) That this meeting is prepared to support the Metropolitan Hospitals Contribution Scheme, provided that proper arrangements are made to safeguard the interests of medical practitioners in regard to intermediate and private patients, and that these interests may be safeguarded—

(a) By establishing community services in all metropolitan hospitals;

(b) By provision of a uniform system of classification, acceptable to the medical profession, of the different classes of patients—public, intermediate and private, according to their circumstances;

(c) By establishing machinery whereby the medical practitioner in attendance shall be able to charge and recover fees.

(3) That this meeting is of the opinion that any contribution scheme, industrial or otherwise, which provides for out-patient services to the con-

tributors, is not acceptable to the members of the New South Wales Branch of the British Medical Association.

With regard to the application of Section 35, *Public Hospitals Act, 1929*, the Hospitals Commission has intimated that if, in the ordinary course of admissions to a hospital, either as a result of some accident or illness necessitating urgent admission or by imposition, a patient was admitted to the public ward of a hospital who was able to pay for intermediate or private accommodation, then the hospital, providing it had received, under Section 35, the sanction of the Hospitals Commission to admit paying patients, could, without removing the patient from the bed he was occupying in the public ward, declare such patient to be a paying patient and the medical attendant would be able to charge the patient for his attendance in accordance with the provisions of Regulation 30.

#### Articles and By-Laws.

In pursuance of a special resolution which was passed and confirmed at extraordinary general meetings of the Branch held on April 30 and May 28, 1931, respectively, Article 60 was amended so as to provide that, in the event of the death during his term of office or of the resignation of the Past-President, the Council shall appoint a Past-President in his stead.

In accordance with Article 68 of the Articles of Association, additions to and amendments of the By-Laws were made as follows:

1. A by-law, By-Law 35, governing ethical matters and procedure therein, was made. The by-law is in accord with the Model Rules for Procedure in Ethical Matters for a Branch in Australia adopted by the Federal Committee of the British Medical Association in Australia after being submitted to the Central Ethical Committee of the British Medical Association.

2. By-Law 25.—A new subclause, (i) and (ii), was added to the existing by-law. The new subclause provides that in the case of the examination of a worker by a medical practitioner selected by the employer under the provisions of the *Workers' Compensation Act, 1926-1929*, or any amendment thereof, the medical examiner shall not undertake the immediate treatment of the worker patient except with the consent of the medical attendant previously obtained.

3. By-Law 9.—The amended by-law incorporates the rule of the General Medical Council governing direct and indirect advertising, and does not permit of a member inserting any advertisement relating to his profession or the practice thereof.

4. By-Law 17.—The amended by-law provides that no member shall canvass or employ any agent or canvasser for the purpose of obtaining patients or shall sanction or be associated with or employed by those who sanction such employment.

#### Premises.

It is greatly to be regretted that the success of the new House of the Association from a financial point of view is still not yet possible. Owing to a shortage of tenants, the necessary expenditure still greatly exceeds the income. To meet the position expenses have been cut down, wherever possible, to a minimum. Office expenditure has been reduced by a thousand pounds a year, and the management expenses of the building by four hundred pounds a year.

Members have been appealed to to assist by themselves taking rooms in the House or by influencing others to do so, by taking up debentures or by making special contributions.

#### British Medical Association.

The centenary meeting of the British Medical Association will be held in London in July, 1932. The annual representative meeting will begin at the British Medical Association House, Tavistock Square, on July 21, and the statutory annual meeting on July 25. The incoming President, Lord Dawson of Penn, will deliver his address at the Queen's Hall, Langham Place, on July 26. There will

[illegible]

**Income and Expenditure Account for the Year ended December 31, 1931.**

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
To Salaries <i>et cetera</i> —							By Subscriptions—						
Medical Secretariat and							1931 .. .. .	6,990	11	9			
Staff (6) .. .. .	1,959	1	8				1930 .. .. .	572	1	0			
Financial Secretariat (1) ..	70	0	0				Previous years .. .. .	28	5	0			
Librarian (1) .. .. .	174	6	0								7,590	17	9
				2,203	7	8	Less Proportion due to—						
„ Rent—Offices <i>et cetera</i> ..	2,476	17	10				British Medical Association .. .. .	1,956	16	3			
„ Printing and Stationery ..	173	4	8				THE MEDICAL JOURNAL OF						
„ Stamps and Telegrams ..	203	19	0				AUSTRALIA .. .. .	1,910	8	9			
„ Telephones and Letter Box	62	15	2								3,867	5	0
„ Family Endowment Tax ..	15	14	4										
„ Legal Expenses .. .. .	12	12	0								3,723	12	9
„ Travelling Expenses .. ..	11	10	1				„ Interest, Premises Account	112	8	5			
„ Insurance .. .. .	2	15	1				„ Rent, Assembly Hall .. ..	83	1	0			
„ Exchange and Bank Charges	8	1	2				„ Sales, C.F.A. <i>et cetera</i> ..	7	14	8			
„ Sundries (General Meetings,											203	4	1
Window Blinds, Repairs,							„ Balance—Deficiency for the						
Newspapers <i>et cetera</i> ) ..	44	9	8				Year ended December 31,						
				3,011	19	0	1931, transferred to						
„ Depreciation—							Accumulated Funds				1,438	9	10
Library .. .. .	125	0	0				Account .. .. .						
Office Furniture and Equip-	25	0	0										
ment .. .. .													
				150	0	0							
				£5,365	6	8					£5,365	6	8

We have examined the books and vouchers of the New South Wales Branch of the British Medical Association for the twelve months ended 31st December, 1931, and we certify that, in our opinion, the above Balance Sheet and accompanying Income and Expenditure Account represent the true financial position of the Association at December 31, 1931, and the transactions for the year ended that date respectively as shown by the books of the Association and information supplied us.

COATES, CUNNINGHAM & COMPANY,  
Chartered Accountants (Aust.).

**PREMISES ACCOUNT.**  
**Balance Sheet as at December 31, 1931.**

LIABILITIES.				ASSETS.			
	£	s.	d.		£	s.	d.
Debentures—				Land and Building, British			
283 5%, Series "A", at £10 each	2,830	0	0	Medical Association House,			
472 6%, Series "B", at £50 each	23,600	0	0	135-137, Macquarie Street ..	185,154	12	2
245 6%, Series "C", at £10 each	2,450	0	0	Sundry Debtors—			
	28,880	0	0	Tenants' Accounts—Rent ..	1,329	14	10
Less Amount Unpaid .. ..	529	18	0	Tenants' Partitions .. ..	588	12	1
			28,350	2	0		
Interest Accrued on Debentures			3,206	10	11		
Australian Mutual Provident				Tenants' Fixtures and Fittings	185	17	1
Society—				Sundries .. .. .	38	13	8
Secured by Mortgage over							2,142
Property, British Medical				Cash on Hand .. .. .			0
Association House, 135-137,				Prepaid Insurance .. .. .			126
Macquarie Street, Sydney	95,718	3	6				11
Interest Accrued .. .. .	406	17	10				
			96,125				
British Medical Association, New			1				
South Wales Branch—Loan..			1,336				
Sundry Deposits at Call .. ..			1,020				
Sundry Creditors .. .. .			250				
Commercial Banking Company of							
Sydney, Limited .. .. .			4,208				
Accumulated Funds—							
Balance at December 31, 1930	54,651	6	7				
Add Interest, Australian							
Medical Gazette .. .. .	17	10	0				
	54,668	16	7				
Less Deficiency in Revenue							
Account, Year ended							
December, 1931 .. .. .	1,741	16	11				
			52,926				
			19				
			8				
			£187,424				
			1				
			11				
			£187,424				
			1				
			11				



## Income and Expenditure Account for the Year ended December 31, 1931.

	£	s.	d.	£	s.	d.		£	s.	d.	£	s.	d.
To Wages (7) .. . . .	1,411	0	5				By Rent Revenue .. . . .	9,445	15	3			
" Water and Sewerage Rates	1,008	4	7				" Donations .. . . .	559	17	0			
" Municipal Rates .. . . .	590	8	5								10,005	12	3
" Commission .. . . .	58	0	1				" Balance—Deficiency for the						
" Insurance .. . . .	303	9	3				Year ended December 31,						
" Maintenance—							1931, transferred to						
Building .. . . .	114	4	7				Accumulated Funds						
Lifts .. . . .	30	4	11				Account .. . . .				1,741	16	11
Central Heating <i>et cetera</i>	187	12	10										
" Federal Land Tax .. . . .	270	1	0										
" Family Endowment Tax .. .	18	1	9										
" Electricity .. . . .	291	0	11										
" Gas .. . . .	7	10	9										
" Telephone .. . . .	30	9	1										
" Audit Fee .. . . .	21	0	0										
" Fees <i>re</i> A.A.V. and U.C.V.													
Appeal .. . . .	26	5	0										
" Advertising .. . . .	2	7	6										
" Stamps and Stationery .. .	4	8	9										
" Exchange and Bank Charges	0	18	3										
				4,375	8	1							
" Interest—													
Australian Mutual Provi-													
dent Society .. . . .	5,385	16	11										
Debentures .. . . .	1,669	17	9										
Deposits .. . . .	48	15	0										
Bank .. . . .	155	3	0										
New South Wales Branch	112	8	5										
				7,372	1	1							
				£11,747	9	2					£11,747	9	2

We have examined the books and vouchers of the Premises Account of the New South Wales Branch of the British Medical Association for the twelve months ended December 31, 1931, and we certify that, in our opinion, the above Balance Sheet and accompanying Income and Expenditure Account represent the true financial position of the Premises Account of the Association at December 31, 1931, and the transactions for the year ended that date respectively as shown by the books of the Association and information supplied us.

COATES, CUNNINGHAM & COMPANY,  
Chartered Accountants (Aust.).

*Members of the Council:* Dr. J. E. V. Barling, Dr. G. M. Barron, Dr. C. B. Blackburn, Dr. A. J. Collins, Dr. A. M. Davidson, Dr. Lindsay Dey, Dr. J. A. Dick, Dr. B. T. Edye, Dr. R. V. Graham, Dr. Hugh Hunter, Dr. W. K. Inglis, Dr. C. H. E. Lawes, Dr. A. A. Palmer, Dr. W. F. Simmons, Dr. Kenneth Smith, Dr. E. H. M. Stephen, Dr. R. B. Wade.

A vote of thanks was accorded to Dr. K. B. Noad, Dr. H. A. Ridler, Dr. A. J. H. Stobo, Dr. L. G. Tait and Dr. R. C. Winn for their services as scrutineers.

On the motion of Dr. T. W. Lipscomb, seconded by Dr. J. A. Dick, Dr. W. H. Crago was elected a Vice-President of the Branch in recognition of his great services to the Association.

It was resolved that an independent auditor be appointed by the Council.

On the motion of Dr. C. H. E. Lawes, seconded by Dr. Hugh Hunter, Dr. E. W. Fairfax was appointed representative of the Branch in the Representative Body, 1932-1933.

On the motion of Dr. W. F. Simmons, seconded by Dr. Hugh Hunter, Dr. T. Sholto Douglas and Dr. H. M. Moran were appointed delegates of the Branch to attend the centenary meeting of the Association in London.

## INCOMING PRESIDENT'S ADDRESS.

Dr. A. J. Gibson read his President's address (see page 565). A vote of thanks was passed to Dr. Gibson, on the motion of Dr. George Bell, seconded by Dr. A. A. Palmer.

## INDUCTION OF PRESIDENT.

Dr. George Bell inducted the President for the year 1932-1933, Dr. A. J. Gibson. Dr. Gibson thanked the members for his election, and the meeting closed with a vote of thanks to the retiring President, Dr. George Bell, moved by Dr. A. J. Gibson.

## NOMINATIONS AND ELECTIONS.

THE undermentioned has been nominated for election as a member of the New South Wales Branch of the British Medical Association:

Armstrong, Thomas Michael John, M.B., B.S., 1929  
(Univ. Sydney), 205, Harris Street, Pyrmont.

## MEMORIAL TO THE LATE WILLIAM JOHN HANCOCK.

THE Vice-Chancellor of the University of Western Australia has written to the Western Australian Branch of the British Medical Association on behalf of the School of Engineering and Mining of the University of Western Australia, and has asked for the cooperation of members of the Association in the erection of a tablet at the University to the memory of the late William John Hancock. It will be remembered that William John Hancock, when Government Electrical Engineer, introduced the use of X rays to Western Australia. He served for years as Honorary Radiographer of the Perth Hospital and retired on account of ill health in 1896. His services during many years were invaluable to the members of the medical profession. It is felt that many members would wish to share in the erection of the tablet. Subscriptions may be sent to the Honorary Secretary of the Western Australian Branch.

## Correspondence.

## "AVERTIN."

SIR: Dr. W. Cletus Smith, of Coraki, has been kind enough to point out to me a typographical error in my

book on "Avertin" anæsthesia which had escaped the notice of both proof-readers and reviewers, and which, if acted on, would lead to overdosage. On page 65, line 24, "1.3 cubic centimetres" should read "0.63 cubic centimetre". Thanking you for allowing me your space to correct this figure.

Yours, etc.,

KEMPSON MADDOX.

135, Macquarie Street,  
Sydney,  
April 4, 1932.

#### THE RAPIDLY CHANGING POINT OF VIEW.

SIR: Dr. Trinca's interesting contribution entitled "Clinical Anthropology" raises many problems which have long exercised both those concerned with medical education and those who desire to see the medical profession develop into something more than a collection of educated technologists concerned, as he puts it, chiefly with the end products of faulty social arrangements.

When this problem is faced as a practical proposition it is evident that what is requisite in the main is an altered attitude. Still, something may be done in the curriculum, though it will be always dependent on the mode of approach to the subject by the teacher. Biology might be remodelled in the direction of reduction of the amount of detail and the introduction of a conspectus of the problem of all life on the globe. The other step, which I am glad to say is being taken, is the introduction of the "History of Medicine" as a subject for all the higher examinations. Nothing is more likely to prevent unsound thinking, and consequently rash action, in practice, and to produce breadth of outlook, than the dismal history of false theories and unsound practice and the conviction that similar action must be daily taking place by and around us.

Perhaps illustrations of what I conceive to be Dr. Trinca's theorem may be given by a reference to the damage done by venereal diseases and to several other subjects.

The careful censuses taken in the United States of America and elsewhere show us that on any one day in all large cities about 1% of the population are under treatment for venereal disease. At a recent census, which was not confined to cities, it was found that new cases amounted in the year to more than 1% of the population. The censuses, of course, exclude the supposed cures and those not under medical treatment. There is no evidence that syphilis is lessening in civil life, though it is much better treated than formerly and consequently its external manifestations are not so obvious. Gonorrhœa seems unaffected. Yet in the armies and navies syphilis has greatly decreased and gonorrhœa shows a substantial decrease.

We know that prophylaxis used intelligently during the war brought both diseases well under control. But a much greater issue emerges.

If early marriage were the fashion much of the very expensive, and often ineffectual, treatment would be unnecessary. If certain ethical motives were part of the make-up of the adolescent much disaster would be avoided.

You find the married man often, when ordinary marital relations are impossible, avoiding promiscuity because he feels it would not be "playing the game" and so a vast anthropological problem opens out.

I find medical practitioners flock to clinical demonstrations and rightly are profoundly interested. They are acutely absorbed in the investigation into the cause of cancer *et cetera*, but I find no enthusiasm for dealing with anything so thoroughly understood as venereal disease, which probably causes more deaths, ill health, misery, and waste of money than anything else.

Dr. Trinca rightly refers to the reduction of infantile mortality due to the work of the baby health centres. Similarly the great reduction in maternal, neo-natal, and infantile mortality so far in the bush nursing movement is due to methods which in principle are of the simplest character. The town planning and playgrounds movement

is also essentially a medical undertaking. Yet how often does one read in any medical journal of these great changes, though masses of material are published on what are, of course, important technical subjects?

Has any fitting reference been made anywhere to the work of that remarkable institution "The Native Medical School at Suva, Fiji", which so profoundly impressed Professors Wright and Buckmaster?

In conclusion may I emphasize the fact that the solution of these and many other problems rests in the hands of the backbone of the profession, namely, the general practitioner, who must, if he is to be great, become a clinical anthropologist.

Dr. Trinca's paper suggests an answer to the questions referred to and many others in addition.

Yours etc.,

JAMES W. BARRETT.

105, Collins Street,  
Melbourne,  
Undated.

#### Obituary.

##### JOHN EDGAR WOLFHAGEN.

WE regret to announce the death of Dr. John Edgar Wolfhagen, which occurred at Hobart on March 22, 1932.

Born in Frankfurt-am-Rhein, Germany, on July 9, 1859, Wolfhagen came to Hobart when he was about fifteen years of age. He went to Scotland to study medicine and graduated as Bachelor of Medicine and Master of Surgery in 1883. Two years later he returned to Hobart and commenced practice. He became a member of the British Medical Association in 1911 and resigned in 1917.

Dr. R. G. Scott, of Hobart, writes:

Another of our older professional men has passed over the borderline, John Edgar Wolfhagen.

I would like to pay a small tribute to one who was the most sincere of friends and a true Christian gentleman, a man whose word was always his bond and who was in his time an experienced and clever surgeon. After an association with him for some years in school days in Tasmania, I next met him in the quadrangle of the old University in Edinburgh in 1883, on the occasion of the election of Stafford Northcote to the Lord Rectorship. He had just passed his final examination for the M.B., C.M. of the University, and spent the next year in the Royal Infirmary, Edinburgh, first as house surgeon to Professor Annandale and afterwards as house physician to Dr. John Wyllie, one of Edinburgh's leading physicians. After further experience in English hospitals he returned to Tasmania in 1886 and commenced the practice of his profession, for which his previous experience had fully qualified him. He became one of Hobart's leading surgeons, following up the aseptic principles which he had imbibed from the followers of Lord Lister in Edinburgh. Shortly after his return to Tasmania he was appointed an honorary surgeon to the General Hospital and carried out the duties for the next twenty-four years as well as a large general and surgical private practice. Unfortunately, in the early years of this century he developed a chronic disability which cut short his surgical career, and since then he has lived in retirement. Always of a kindly and sociable nature, he had, however, kept in touch with the friends who surrounded him and among whom he will be much missed.

Dr. Wolfhagen was in his seventy-third year when he was called away. He first married the daughter of the Honourable Charles Davis, who predeceased him sixteen years ago, leaving one son, Mr. Charles Wolfhagen, now a partner in the legal firm of Simmons, Wolfhagen, Simmons and Walch, of this city. He afterwards married Miss Irene Bapty, daughter of Mr. A. T. Bapty, of Wollambi, New South Wales, who survives him with her young son.

## Books Received.

**FEMALE SEX HORMONOLOGY: A REVIEW**, by W. P. Graves, A.B., M.D., F.A.C.S.; 1931. Philadelphia: W. B. Saunders Company; Melbourne and Christchurch: James Little and Son. Royal 8vo., pp. 130. Price: 23s.

**PRACTICAL MEDICINE SERIES: PEDIATRICS**; Series 1931. Chicago: The Year Book Publishers. Crown 8vo., pp. 569. Price: \$2.25 net.

## Diary for the Month.

APR. 26.—New South Wales Branch, B.M.A.: Medical Politics Committee.

APR. 27.—Victorian Branch, B.M.A.: Council.

APR. 28.—South Australian Branch, B.M.A.: Branch.

APR. 28.—New South Wales Branch, B.M.A.: Branch.

MAY 2.—New South Wales Branch, B.M.A.: Organization and Science Committee.

MAY 4.—Western Australian Branch, B.M.A.: Council.

MAY 4.—Victorian Branch, B.M.A.: Branch.

MAY 5.—South Australian Branch, B.M.A.: Council.

MAY 6.—Queensland Branch, B.M.A.: Branch.

MAY 10.—New South Wales Branch, B.M.A.: Ethics Committee.

MAY 12.—New South Wales Branch, B.M.A.: Clinical Meeting.

MAY 13.—Queensland Branch, B.M.A.: Council.

MAY 17.—New South Wales Branch, B.M.A.: Executive and Finance Committee.

MAY 18.—Western Australian Branch, B.M.A.: Branch.

MAY 24.—New South Wales Branch, B.M.A.: Medical Politics Committee.

## Medical Appointments.

Dr. E. B. H. Brothie has been appointed Junior Resident Medical Officer, Parkside Mental Hospital, South Australia.

Dr. G. H. Burnell (B.M.A.) has been appointed Temporary Honorary Assistant Surgeon, Adelaide Hospital, South Australia.

Dr. A. H. Lendon (B.M.A.) has been appointed Temporary Honorary Clinical Assistant (Surgical Section), Adelaide Hospital, South Australia.

Dr. L. G. Tassie (B.M.A.) has been appointed a Member of the Medical Board of Port Pirie, South Australia, under the provisions of the *Workmen's Compensation Act Amendment Act, 1927*.

Dr. F. K. Mugford (B.M.A.) has been appointed Assistant Medical Officer in the Children's Welfare and Public Relief Department, under the provisions of the *Public Service Acts, 1916 and 1925*, South Australia.

## Medical Appointments Vacant, etc.

For announcements of medical appointments vacant, assistants, locum tenentes sought, etc., see "Advertiser," page xviii.

CAMOOWEAL COTTAGE HOSPITAL, CAMOOWEAL, NORTH QUEENSLAND: Medical Officer.

LAUNCESTON PUBLIC HOSPITAL, LAUNCESTON, TASMANIA: Resident Medical Officer (male).

LEWISHAM HOSPITAL, SYDNEY, NEW SOUTH WALES: Honorary Biochemist.

MATER MISERICORDIE HOSPITAL, SYDNEY, NEW SOUTH WALES: Junior Resident Medical Officers.

PERTH HOSPITAL, PERTH, WESTERN AUSTRALIA: Junior Resident Medical Officers.

PUBLIC SERVICE COMMISSIONER, ADELAIDE, SOUTH AUSTRALIA: Junior Resident Medical Officer.

SAINT VINCENT'S HOSPITAL, SYDNEY, NEW SOUTH WALES: Honorary Officers.

ST. GEORGE DISTRICT HOSPITAL, SYDNEY, NEW SOUTH WALES: Honorary Clinical Assistant.

TOWNSVILLE HOSPITALS' BOARD, TOWNSVILLE, QUEENSLAND: Junior Resident Medical Officer.

WOOROLOO SANATORIUM, WESTERN AUSTRALIA: Junior Resident Medical Officer.

## Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 135, Macquarie Street, Sydney.	Australian Natives' Association. Ashfield and District United Friendly Societies' Dispensary. Balmmain United Friendly Societies' Dispensary. Friendly Society Lodges at Casino. Leichhardt and Petersham United Friendly Societies' Dispensary. Manchester Unity Medical and Dispensing Institute, Oxford Street, Sydney. North Sydney Friendly Societies' Dispensary Limited. People's Prudential Assurance Company Limited. Phoenix Mutual Provident Society.
VICTORIAN: Honorary Secretary, Medical Society Hall, East Melbourne.	All Institutes or Medical Dispensaries. Australian Prudential Association, Proprietary, Limited. Mutual National Provident Club. National Provident Association. Hospital or other appointments outside Victoria.
QUEENSLAND: Honorary Secretary, B.M.A. Building, Adelaide Street, Brisbane.	Brisbane Associated Friendly Societies' Medical Institute. Mount Isa Mines. Toowoomba Associated Friendly Societies' Medical Institute. Chillagoe Hospital. Members accepting LODGE appointments and those desiring to accept appointments to any COUNTRY HOSPITAL are advised, in their own interests, to submit a copy of their agreement to the Council before signing.
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